# Honolulu High-Capacity Transit Corridor Project

# Draft Financial Plan

## August 12, 2008

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City and County of Honolulu

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# Chapter 1 Introduction

This report provides a Financial Plan for implementing and operating the approximately 20-mile minimum operable segment of the City and County of Honolulu's ("the City's") High-Capacity Transit Corridor Project (HHCTCP), as well as operating and maintaining its existing public transportation system. This Financial Plan is a revision to the Draft Financial Plan submitted in November 2007 during the alternatives analysis (AA) phase of the Federal Transit Administration's (FTA's) New Starts project development process. It supports the City's submittal to FTA for approval to advance the Project to the Preliminary Engineering (PE) phase and also supplements the information provided in Chapter 6 of the Draft Environmental Impact Statement (DEIS) currently under development. The Financial Plan will continue to be updated during subsequent phases as changes occur to estimated costs, funding, or external factors that affect the City's finances. Unless otherwise noted, all amounts in this Financial Plan are presented on a City Fiscal Year (FY) basis, from July 1 to June 30. For example, FY2013 refers to the City's fiscal year starting on July 1, 2012 and ending on June 30, 2013.

## Description of the Project Sponsor and Funding Partners

### *Project Sponsor*

The City and County of Honolulu (City) is the project sponsor, through its Department of Transportation Services (DTS). The City is a body politic and corporate, as provided in Section 1-101 of the Charter of the City and County of Honolulu 1973, as amended (RCH). The City's governmental structure consists of the Legislative Branch and the Executive Branch. The legislative power of the City is vested in and exercised by an elected nine-member City Council whose terms are staggered and limited to no more than two consecutive four-year terms. The executive power of the City is vested in and exercised by an elected Mayor, whose term is limited to no more than two consecutive full four-year terms. The City is authorized under Chapter 51 of the Hawaii Revised Statutes to "acquire, condemn, purchase, lease, construct, extend, own, maintain, and operate mass transit systems, including, without being limited to, motor buses, street railroads, fixed rail facilities such as monorails or subways, whether surface, subsurface, or elevated, taxis, and other forms of transportation for hire for passengers and their personal baggage." This authority may be carried out either directly, jointly, or under contract with private parties. The City is the designated recipient of FTA Urbanized Area Formula Funds apportioned to the Honolulu and Kailua-Kaneohe urbanized areas.

The DTS is authorized under RCH Chapter 17. The DTS consists of an appointed DTS Director who is the administrative head of the department, a transportation commission, and necessary staff. The DTS Director's powers, duties, and functions include planning, operating, and maintaining transportation, including transit, systems. The DTS Director reports to the City Managing Director who is the principal administrative aide to the Mayor. Section 2-12.1 of the Revised Ordinances of Honolulu, as amended (ROH), assigns to the DTS Director the responsibility of planning, designing, operating, and maintaining the automated fixed guideway rapid transit system and for planning, administering, and coordinating those programs and projects that are proposed to be funded under the Federal Transit Act, as amended.

The DTS' Rapid Transit Division will be responsible for planning, designing, implementing, and operating the Project. The DTS' Public Transit Division is responsible for the City's fixed route and paratransit services operated under contract by Oahu Transit Services, Inc. The City's fixed route bus system is referred to as "TheBus," and it is currently the 20th most utilized transit system in the United States. Annual transit passenger miles per-capita are higher in Honolulu than in all other major U.S. cities without a fixed guideway transit system. TheBus serves the entire island of Oahu, including the estimated 900,000 residents and 100,000 visitors to be on the island on an average day. TheBus has 91 bus routes and provides more than 70 million unlinked passenger trips each year. In 1997, Oahu Transit Services was assigned operating responsibility for the City's paratransit services, referred to as

the "TheHandi-Van." With more than 13,000 eligible customers, TheHandi-Van provides over 750,000 unlinked passenger trips per year.

### *Funding Partners*

#### City and County of Honolulu

The dedicated local funding source for the Project is an established one-half percent (0.5 percent) surcharge on the State of Hawaii's General Excise Tax and Use (GET). In 2005, the Hawaii State Legislature authorized the counties to adopt a surcharge on the GET of a maximum of 0.5 percent for public transportation projects (see Appendix C). Following this authorization, the City enacted Ordinance No. 05-027 (see Appendix C) establishing a 0.5 percent GET county surcharge for the City (GET surcharge). The GET surcharge commenced on January 1, 2007, and will be levied through December 31, 2022. Business activities that are subject to the 4% GE tax rate, such as retailing of goods and services, contracting, renting real property or tangible personal property, and interest income, are also subject to the GET surcharge. This source of revenue is to be exclusively used for operating or capital expenditures of a fixed guideway system. The Hawaii State Department of Taxation is responsible for collecting the GET surcharge and remitting it to the City the net amount after retaining 10 percent of the gross proceeds for administrative purposes. The Financial Plan projects that revenues from the GET surcharge will be approximately $4 billion in year of expenditure dollars (YOE $).

#### Federal Transit Administration

Federal funding assistance from the FTA is assumed in the Financial Plan. Approximately $1,200 million (YOE $) in FTA New Starts funding is anticipated to be available to implement the Project. FTA Urbanized Area Formula funds and non-New Starts capital investment funds will continue to provide assistance for ongoing capital expenditures, including preventative maintenance.

# Description of the HHCTCP

The HHCTCP's east-west corridor stretches across southern Oahu. The corridor is, at most, 4 miles wide because much of it is bounded by the Koolau and Waianae Mountain Ranges in the north and the Pacific Ocean in the south. Between Pearl City and 'Aiea the corridor's width is less than one mile between Pearl Harbor and the base of the Ko'olau Mountain Range. Figure 1-1, is a map of the study corridor.

***Figure 1-1. Project Corridor***


This corridor between Kapolei and the University of Hawaii at Manoa is highly congested with more than 60 percent of Oahu's population residing there[1]. The City and County of Honolulu General Plan (Honolulu General Plan) (DPP 1997a) directs future population growth to the Ewa and Primary Urban Center (PUC) Development Plan and the Central O'ahu Sustainable Communities Plan area. The largest increases in population and employment growth are expected to occur in the 'Ewa, Waipahu, Downtown and Kaka'ako Districts, which are all located in the corridor.

According to the 2000 census, Honolulu ranks as the fifth densest city among U.S. cities with a population greater than 500,000. Among those, Honolulu is the only one without a transit system.

Increasing traffic congestion has impacted the accessibility of the corridor, reduced mobility for people and goods, degraded transit performance, and increased cost. The longer travel times reduce the attractiveness of new developments emerging in Ewa/Kapolei. Average weekday peak-period speeds on Interstate Route H-1 (H-1 Freeway), which runs through the corridor with the H-2 and H-3 Freeways feeding into it, are currently less than 20 miles per hour (mph) in many places and will degrade further by 2030. Travelers on Oahu's roadways currently experience 51,000 vehicle hours of delay, a measure of how much time is lost daily by travelers in traffic, on a typical weekday. This is expected to increase to 71,000 hours by 2030, assuming all planned improvements in the Oahu Regional Transportation Plan are implemented (excluding a fixed guideway system). Without the improvements, the vehicle hours of delay could reach as high as 326,000 vehicle hours.[3]

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[1] www.honolulutransit.org
[3] EIS Scoping Information Package, March 15, 2007

### *AA and Identification of the Project*

The AA process for the HHCTCP was initiated in August 2005 and the *Honolulu High-Capacity Transit Corridor Project Alternatives Analysis Report* was presented to the City Council in October 2006. The purpose of the report was to provide the City Council with the information necessary to select a mode and general alignment for high-capacity transit service on Oahu. On December 22, 2006, the City Council enacted Ordinance No. 07-001 (see Appendix A), which selected a fixed-guideway alternative from Kapolei to the University of Hawaii at Manoa and Waikiki as the Locally Preferred Alternative (LPA). Ordinance 07-001 identified a specific alignment for the majority of the corridor but left options open in two locations. At the western end of the corridor, the LPA selection identified two alignments (described in the AA Report as Section I – Saratoga Avenue/North-South Road and Kamokila Boulevard), with the notation "as determined by the city administration before or during preliminary engineering." In the center of the corridor, the LPA selection also identified two alignments (described in the AA Report as Section III – Salt Lake Boulevard and Aolele Street), also with the notation "as determined by the city administration before or during preliminary engineering."

The LPA selection was made recognizing that revenues from the GET surcharge and FTA New Starts funds would not be sufficient to fund the capital cost of the LPA. On February 27, 2007, the City Council selected as the LPA's minimum operable segment (MOS), East Kapolei to Ala Moana Center, via Salt Lake Boulevard (Resolution 07-039, FD1(c)) (see Appendix A). The MOS is referred to as the "Project" in this Financial Plan.

### *Project Sponsor's Objectives*

The City's goal for the Project is to provide high-capacity, high-speed transit in the congested east-west transportation corridor mentioned above, as specified in the 2030 Oahu Regional Transportation Plan (ORTP). The project is intended to provide faster, more reliable transportation in the corridor and to provide basic mobility in areas with diverse populations.

The following goals were used to select the LPA:

1. Improve corridor mobility
2. Encourage patterns of smart growth and economic development
3. Find a cost-effective solution
4. Provide equitable solutions
5. Develop feasible solutions
6. Minimize community and environmental impacts
7. Achieve consistency with other planning efforts

Implementation of the Project, in conjunction with other improvements in the ORTP, would moderate the growth of anticipated traffic congestion in the corridor, provide an alternative to private automobile use, and improve transit linkages within the corridor. The Project also supports the goals of the Oahu's General Plan and the ORTP by serving areas designated for urban growth.

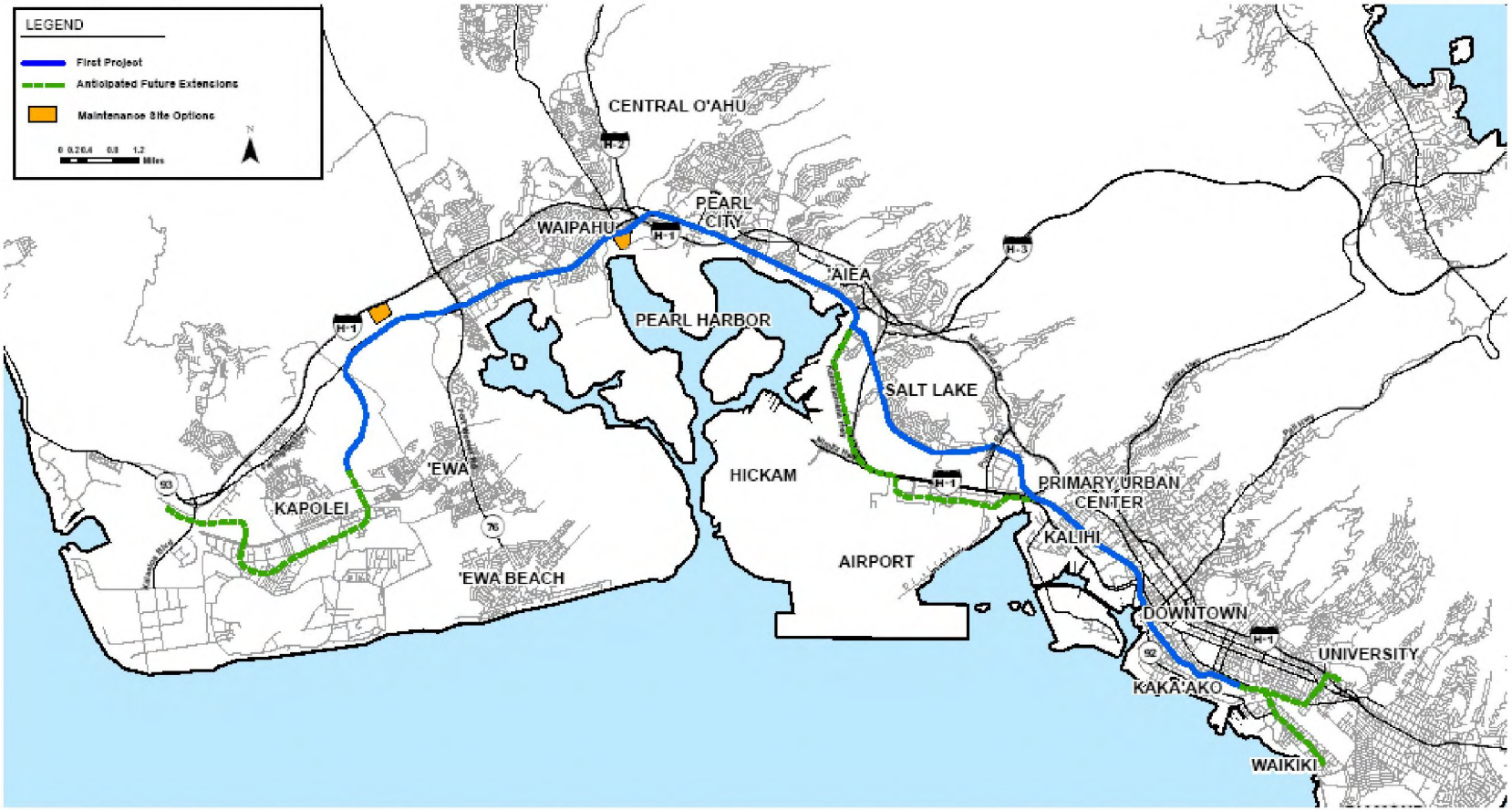
### *Project Detail*

The Project, on which this Financial Plan is based, is a 19.5-mile portion of the LPA extending from East Kapolei in the west to UH Manoa with a branch line to Waikiki in the east and is represented by the blue line in Figure 1-2. The alignment would include 19 stations and is anticipated to be a dual guideway of which 18.0 miles are elevated, 1.2 miles are at-grade, and 0.3 mile is below-grade.

The Project would be constructed in phases, each with similar construction activities. The first phase would be a portion of the Project between the East Kapolei end of the Project and Leeward Community College. This phase also would include construction of the vehicle maintenance and storage facility. The remainder of the Project likely would be built in three overlapping phases continuing Koko Head from Leeward Community College first to Aloha Stadium, then to Kapālama, and finally to Ala Moana Center. Conceptual design for the

Project is under way, and work on the first construction phase is anticipated to begin in 2009. Construction of the Project also would be completed in phases, with the entire Project operating in FY 2019. Individual construction phases would be opened as they are completed.

***Figure 1-2. Project Location***



### *Integration with the Existing System*

The Project will be fully integrated with TheBus system. Feeder bus service will be added to provide increased frequency and more transfer opportunities between bus and rail. Some bus routes would be reconfigured to bring riders on local buses to nearby fixed guideway transit stations.

The Financial Plan assumes fares will be consistent for both TheBus and the fixed guideway service, with free transfers and passes being allowed on both modes. Fare machines will also be available at all rail stations, and standard fareboxes will continue to be used on all buses. More information regarding the fare structure and fare revenues can be found in Chapter 3.

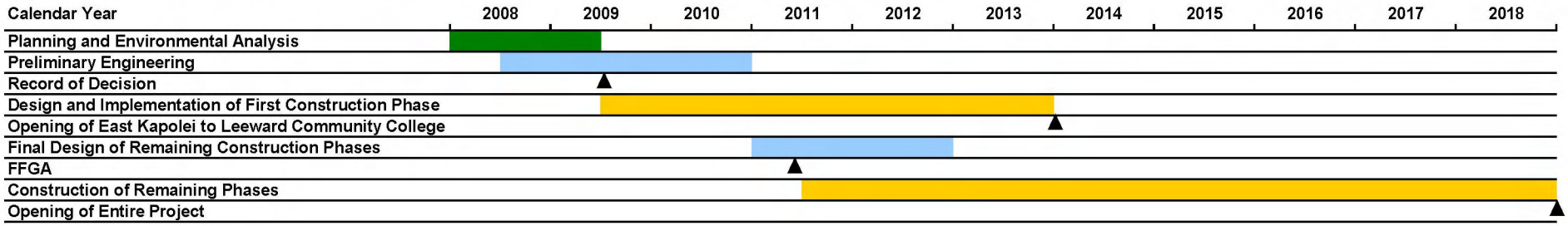
### *Project Timing*

The City initiated technical and engineering work in support of the National Environmental Policy Act (NEPA) in early Fiscal Year (FY) 2008 and anticipates FTA approval to proceed into PE in early FY 2009. FTA's Record of Decision is expected to be issued in FY 2010, after which the following are assumed to occur:

- Notice to proceed will be issued on a design-build contract for Phase I
- FTA will approve Phase II's entry into Final Design

This Financial Plan assumes that the City would sign a full funding grant agreement (FFGA) with FTA around February 2011 and start receiving New Starts funding for the implementation of phase II in FY2013. New Starts funding is expected to fund all aspects of capital costs starting in FY 2013, which is conservative considering that this is about 16 months later than the assumed date for the FFGA, in February 2011.Local funding is expected to fund all aspects of the capital costs throughout the system and is expected to be the sole source of funding during Phase I Figure 1-3 provides more detail about the project schedule. The project schedule is subject to change as procurement and phasing decisions are finalized.

***Figure 1-3. Project Schedule***

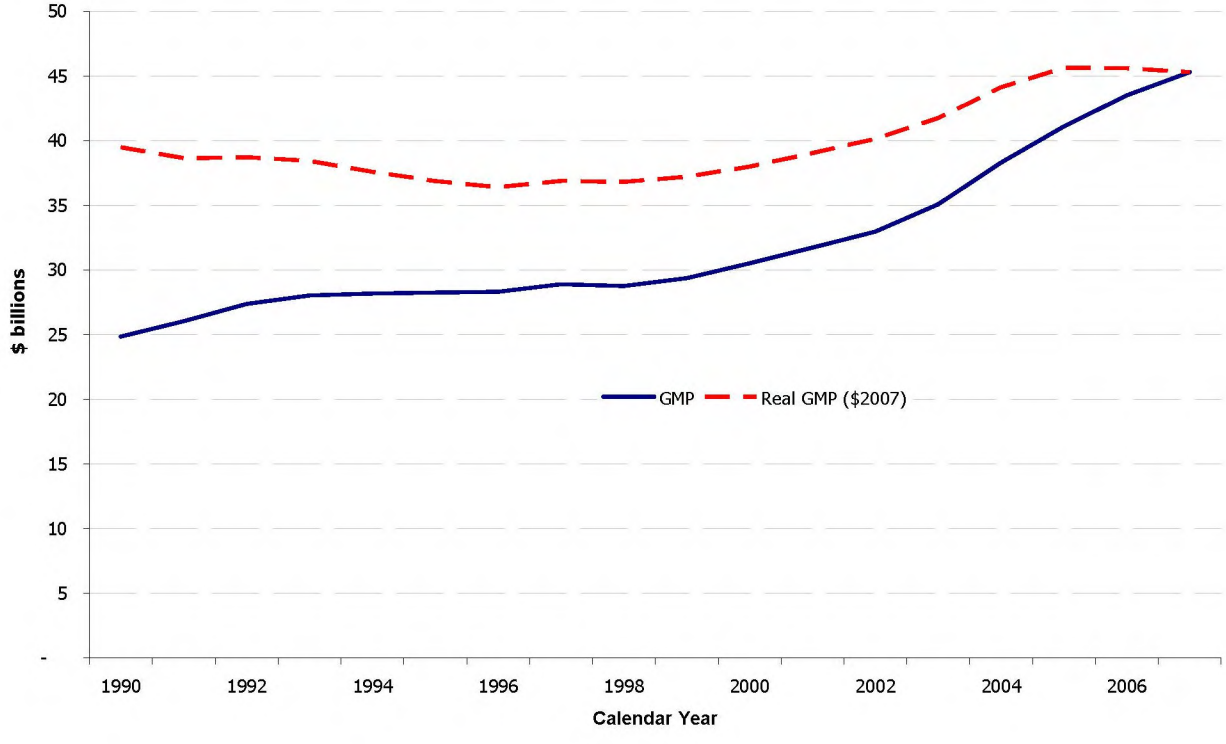


### *Regional Economic Conditions*

Unlike a sales tax which is typically levied on retail activities only, GET is levied on most business transactions including retailing, services, contracting, Theater, Amusements & Radio, Interest, Commissions, Hotels, all other rentals and others. Honolulu's local economic situation is therefore a crucial factor in assessing the financial capacity of the Project. The following section provides an overview of Honolulu's economy, based on the following trends: gross metropolitan product, employment (general and military), tourism, and property values.

A region's gross metropolitan product (GMP) is a measure of all goods and services produced within the area, and it is used to report an area's overall economic performance. As shown in Figure 1-4, Honolulu has experienced steady growth in GMP over the last 17 years. Even when this measure was adjusted to include inflation, the trend has generally increased since 1990.

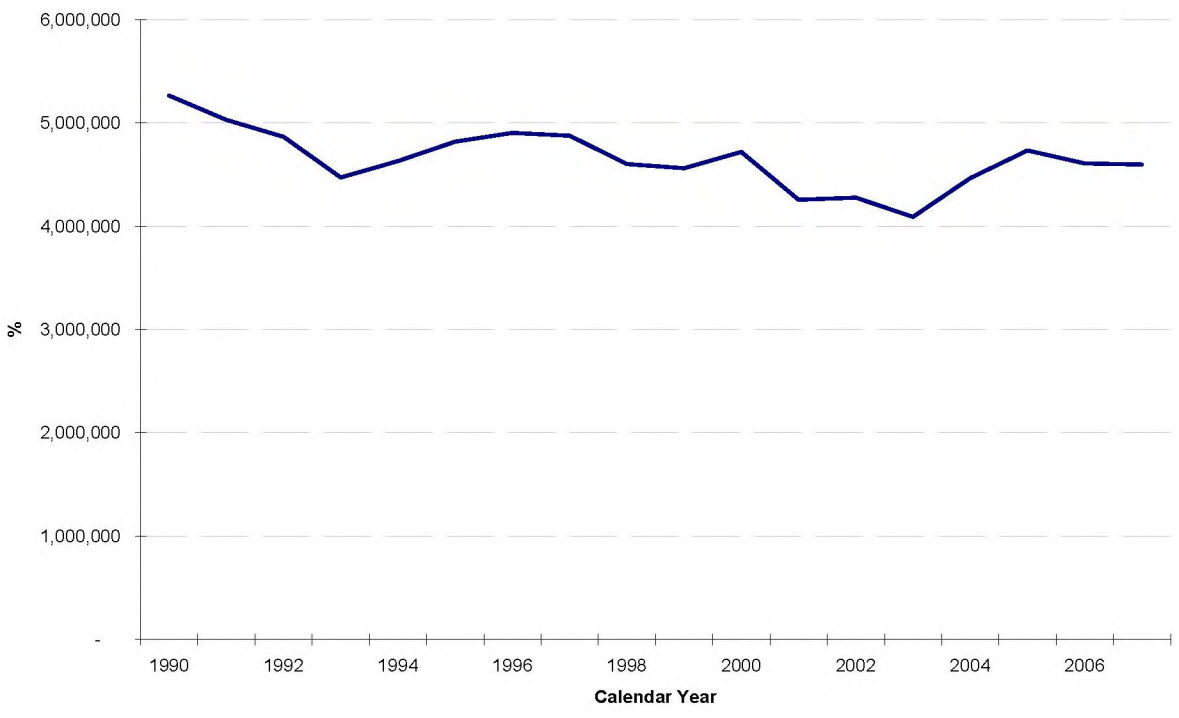
***Figure 1-4. Honolulu Gross Metropolitan Product (GMP)***




Source: Global Insight, www.globalinsight.com

While tourism and military presence in Honolulu remain the main drivers of the local economy, steady growth in GMP, especially since 2000, can be partly explained by growth in the share of retirees, as shown in Figure 1-9. Additionally, the steady growth of Honolulu's GMP can be attributed to the two main drivers of the local economy – tourism and military presence. The trends in tourism and military employment are shown in Figure 1-5 and Figure 1-6, respectively, below.

***Figure 1-5. Honolulu Visitor Arrivals by Air***




Source: Honolulu Department of Business, Economic Development and Tourism (DBEDT)

Tourism plays an important role in Hawaii's economy, and historical data show there has been a strong correlation between retail sales and the number of visitors. In 1992, tourism activity in Honolulu was estimated to contribute directly to 22.5 percent of the total tax revenues. Today, the State of Hawaii's Department of Business, Economic Development and Tourism (DBEDT) estimates that visitors are responsible directly or indirectly for about one quarter of all economic activity in the State.

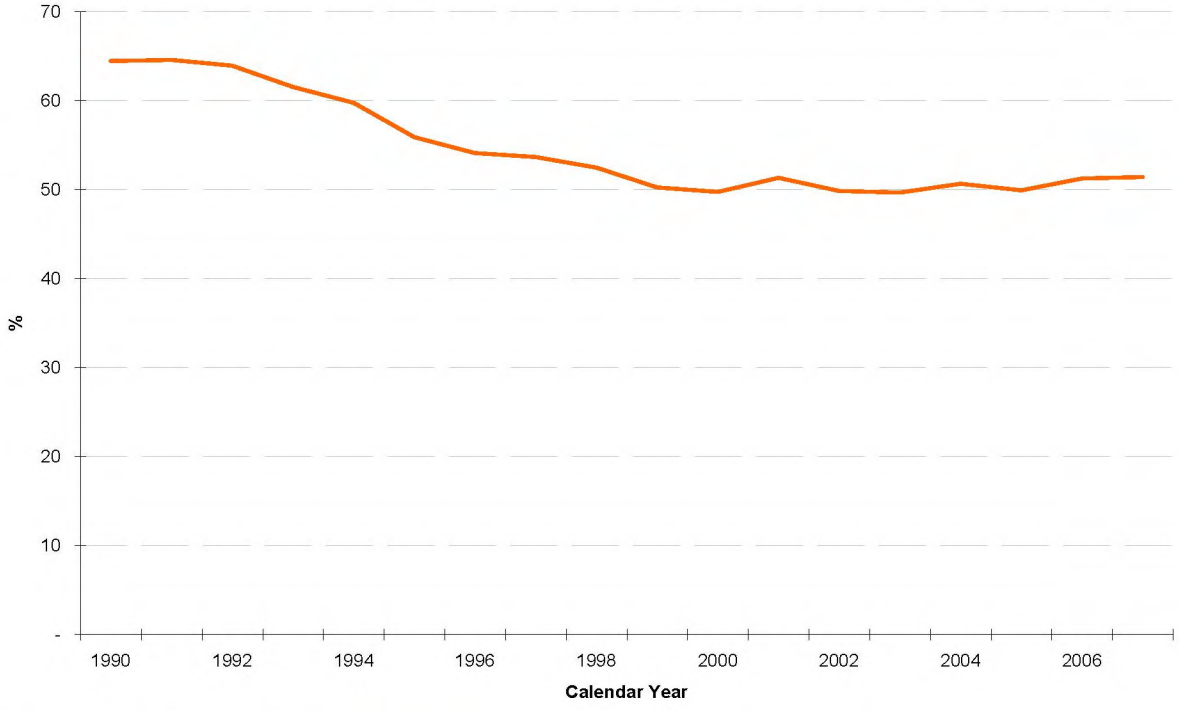
As shown in Figure 1-5, the number of visitors has, for the most part, been consistent over the past 17 years. There have been some lows, specifically around September 11, 2001, but, in general, the long-term trend is generally consistent and steady. The tourism industry is strongly influenced by the economies of the US mainland and Japan. In 2006, tourists originating from Japan accounted for approximately 18 percent of visitor arrivals while tourists originating from the US mainland accounted for 68%[4].. This partly explains why the Hawaiian economy grew at a lesser rate than the one on the mainland in the 1990s, as the Japanese economy was facing a downturn.

When the tourist industry decreased significantly in 2001, military employment increased. The sensitivity of Honolulu's tourism industry to the U.S. mainland and Japanese economic downturns and

[4] Department of Business, Economy, Development and Tourism, http://www.hawaii.gov/dbedt/info/visitor-stats/visitor-research

recessions is mitigated to a certain extent by the stability of the presence of the U.S. military. Even though it has declined by more than 20 percent in the last 10 to 15 years, it has maintained a consistent presence with about 50,000 members of the armed forces each year. Federal defense spending makes up approximately 8 percent of the Gross State Product, with most of the activity in the Honolulu metropolitan area[5]. Figure 1-6 shows a decreasing trend in military employment between 1990 and 2000, although military employment has been relatively constant since then.

***Figure 1-6. Military Employment in Honolulu***

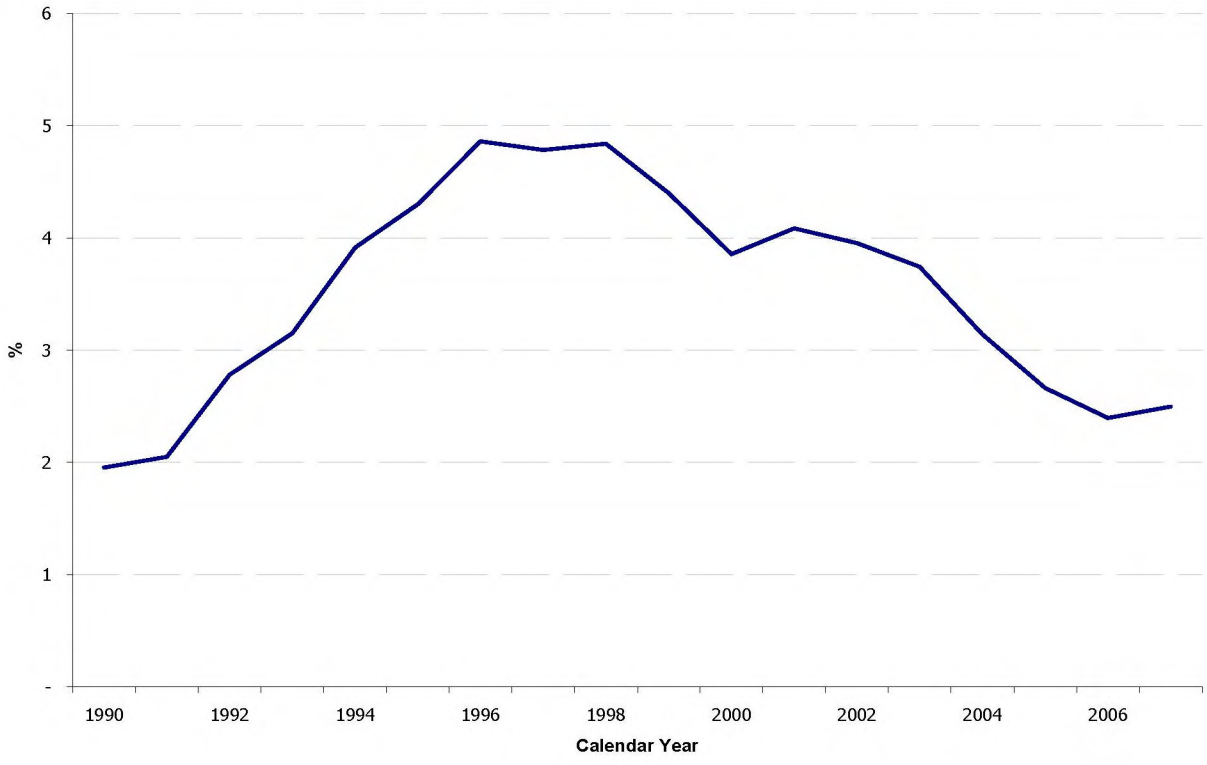



Source: Global Insight, www.globalinsight.com

Another important indicator of economic health is the City's unemployment levels. As shown in Figure 1-7, Honolulu's unemployment peaked between 1996 and 1998, and, besides a peak in 2001, has been on a downward trend since then to reach 2.3 percent in calendar year 2006 corresponding to the lowest metropolitan area unemployment rate in the nation. Honolulu's employment levels are very closely tied to the tourism industry. Any peaks or valleys in the tourism industry have historically been consistent with employment levels. Moreover, increased employment also correlates with increased spending, which is directly related to GET surcharge revenues.

[5] Fitch Ratings Report, October 27, 2005

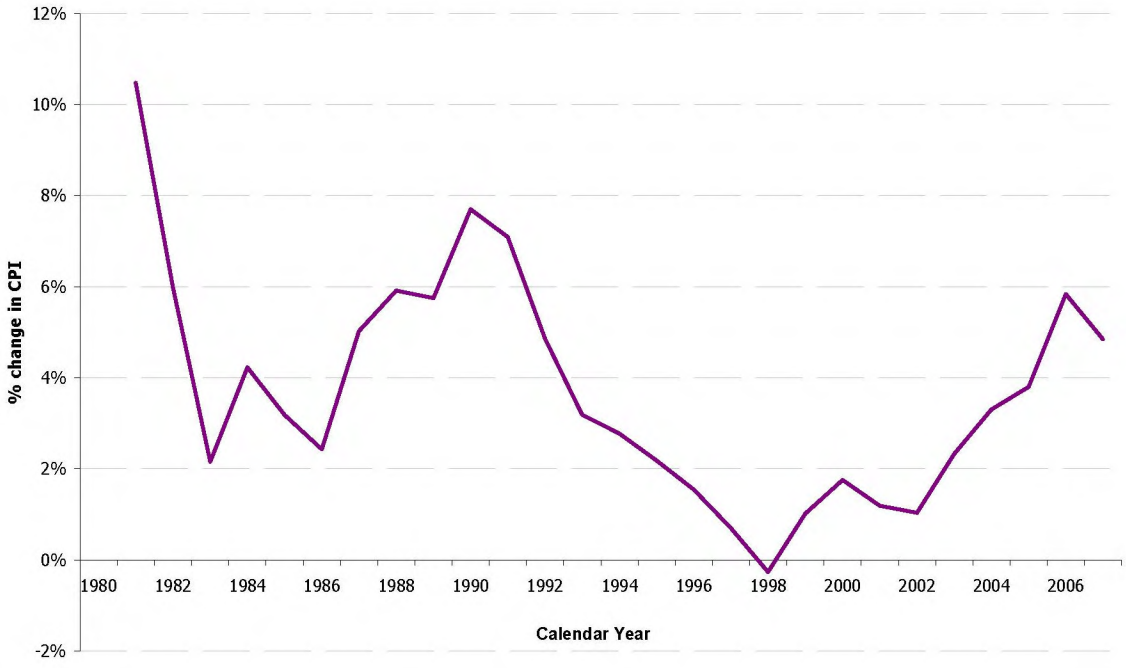
***Figure 1-7. Honolulu Unemployment (%)***




Source: Global Insight, www.globalinsight.com

Honolulu's unemployment trend is also relatively consistent with its Consumer Price Index (CPI). While the CPI had some significant fluctuations between 1990 and 1998, it has been on an upward trend since then. This is an important consideration since the inflation forecasts detailed later in this report incorporate both of these aspects of Honolulu's history. See Figure 1-8.

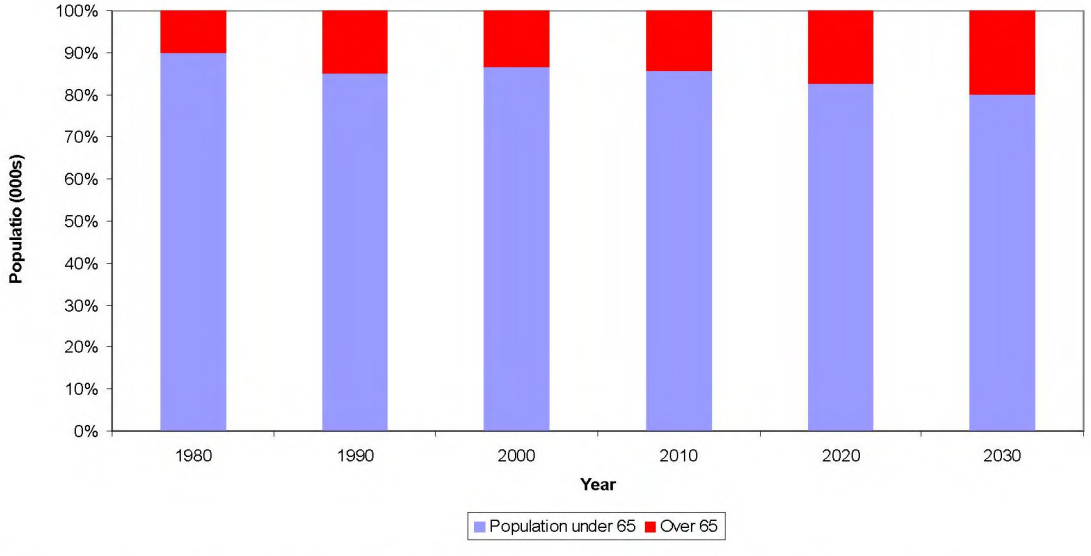
***Figure 1-8. CPI - Honolulu***




Source: U.S. Department of Labor, Bureau of Labor Statistics, www.bls.gov

As mentioned earlier, it is also likely that a large contributor to Honolulu's strong real estate market is the growing amount of retirees. As shown in Figure 1-9, the percentage of Honolulu's population that is over 65 is forecasted to increase from 10 percent in 1980 to 20 percent in 2030. This growing segment of the population is expected to sustain Honolulu's growing economy.

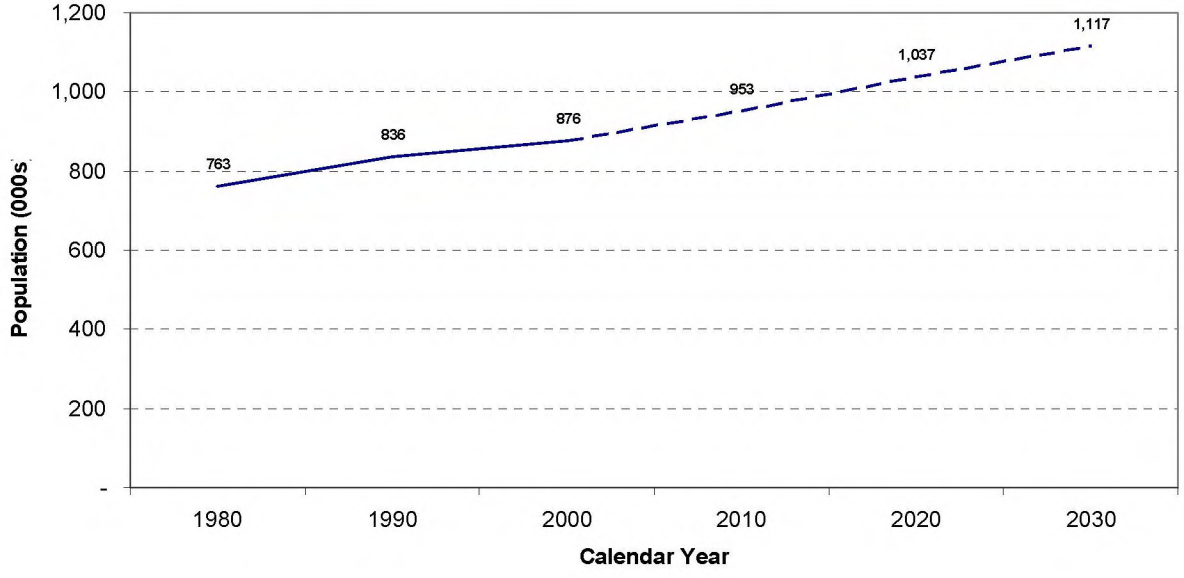
***Figure 1-9. Historical and Projected Honolulu Population by Age***




Source: Honolulu Department of Business, Economic Development and Tourism (DBEDT)

As Figure 1-10 shows, the population increased by 15 percent between 1980 and 2000. Moreover, Honolulu's population is expected to increase by 47 percent between 1980 and 2030. This population increase reflects Honolulu's strong and growing economy.

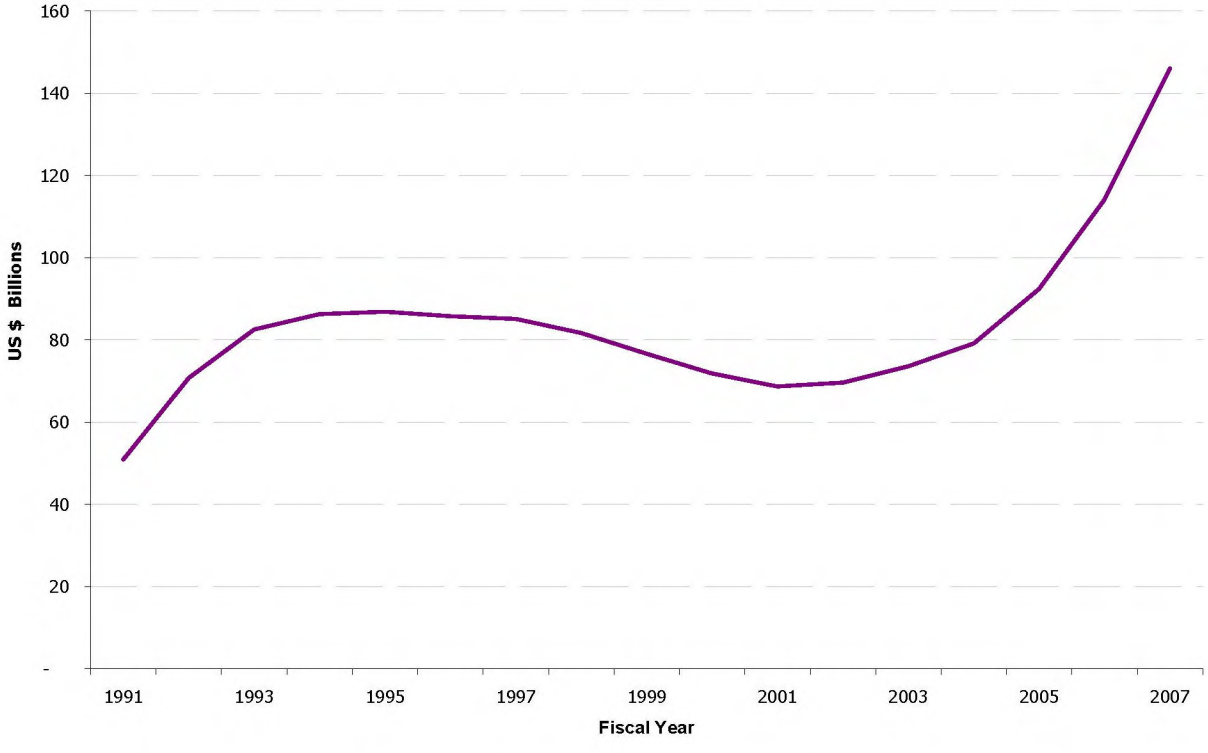
***Figure 1-10. Historical and Projected Honolulu Population (1980 – 2030)***




Source: Honolulu Department of Business, Economic Development and Tourism (DBEDT)

Another indicator of regional economic health is the County's real property value trends. This indicator is also essential to the public transportation as real property tax revenues account for about 70 percent of the City's General Fund revenues, used to subsidize transit operations. Since 2001, the total taxable market value of Oahu's real estate has risen by 86 percent, with the largest contributors being tourism and second-home investment by the retiring "baby-boomer" generation. With limited available land on the island, increased demand in property has caused an increase in the property value. As shown in Figure 1-11 below, Hawaii's property values have been relatively volatile since 1991; however, this volatility was due to a concentration of Japanese capital in the real estate market, which is now diminished. Standard & Poor's December, 2006 Ratings Report states that the current property values may be more sustainable than previous cycles due to a more stable source of investment, strong demand characteristics, and a more limited housing supply. This will need to be weighed against the recent slowdown in the housing market in future iterations of this Financial Plan.

***Figure 1-11. Value of Net Taxable Real Property in Honolulu***




Source: Honolulu Department of Business, Economic Development and Tourism (DBEDT)

It is also worth noting that a large contributor to Honolulu's economy is the construction sector. As long as new real property continues to be on the rise, there will be an increase in the building permit growth, which fuels the demand for construction workers.

Together, all of these trends suggest that Honolulu's economy is strong and stable. Honolulu's GMP has been on an upward trend since 1990; the presence of visitors and the military has been relatively steady for years; and the City's unemployment levels have been decreasing since 2001. These factors, combined with increasing property values and strong population growth, demonstrate Honolulu's strong economic standing.

As stated in Standard & Poor's December 2006 report[6], the City's general obligation (GO) debt improved through strengthened financial reserve policies designed to provide credit stability and strength in the event of potential negative economic or fiscal events.

Factors that reflect this improvement include the following:

- The City's role as the service, trade, and government center for the state of Hawaii, coupled with the anchoring presence of all four branches of the U.S. armed services
- A strong tourism sector, with strong visitor trends after some declines following September 11, 2001
- Very strong increases in property values since FY 2001, including more than 20 percent annual growth in FY 2006 and 2007
- Strong recent financial performance, including a solid general fund surplus in FY 2005 and projected FY 2006 (unaudited)
- A manageable debt burden, with no additional debt plans until FY 2007

# Summary of the Financial Plan

Table 1-1 and Table 1-2 summarize the capital costs and sources and uses of funds for the project, as well as for the entire system. They are based on the baseline assumptions as defined in the subsequent chapters of this report and show that the City is expected to balance and sources on aggregate over the 2008-2030 period.

***Table 1-1. Capital Cost Summary with Baseline Assumptions for the Project, YOE $millions***

| | Millions YOE Dollars |
|---|---|
| **Excluding Finance Charges** | 4,772 |
| **Including Finance Charges through 2018*** | 5,121 |
| **Including Finance Charges through 2030** | 5,278 |

* Corresponds to the last year of construction and New Starts receipts
Note: finance charges include interest expense and issuance cost

[6] Standard & Poor's Upgrading of the City and County of Honolulu http://www.honolulu.gov/budget/honolulu_upgraded_5-dec-2006.pdf, December, 2006

## Table 1-2. Summary Sources and Uses of Funds with Baseline Assumptions, (YOE $millions)

| SOURCES OF FUNDS | YOE $M |
|---|---|
| **Project Capital Sources of Funds** | |
| Net GET Revenues | $4,054 |
| Bond Proceeds | 2,244 |
| Commercial Paper Proceeds | 66 |
| FTA 5309 New Starts Revenues | 1,200 |
| Interest Earnings | 28 |
| Debt Service Payments from Other Revenue Sources | 0 |
| **Subtotal Project Capital Sources of Funds** | **$7,592** |
| **Ongoing Systemwide Capital Sources of Funds** | |
| FTA 5309 Fixed Guideway Modernization | $119 |
| FTA 5309 Bus Discretionary | 132 |
| FTA 5307 Formula Funds | 612 |
| Transfer to State Vanpool program | (37) |
| City GO Bond Proceeds | 252 |
| **Subtotal Ongoing Systemwide Capital Sources of Funds** | **$1,077** |
| **TOTAL CAPITAL SOURCES OF FUNDS** | **$8,669** |
| **Operating Sources of Funds** | |
| Fare Revenues (Bus and Rail) | $2,073 |
| Fare Revenues (Handi-Van) | 53 |
| **Total Fare Revenue** | **$2,127** |
| FTA 5307 Formula Funds (used for preventative maintenance) | 406 |
| City's Operating Subsidy | 5,622 |
| **TOTAL OPERATING SOURCES OF FUNDS** | **$8,155** |

| USES OF FUNDS | YOE $M |
|---|---|
| **Project Capital Uses of Funds** | |
| First Project Capital Cost | $4,772 |
| Commercial Paper Refinancing Amount | 67 |
| **Subtotal Project Uses of Funds** | **$4,839** |
| **Debt Service & other Finance Charges** | |
| Total Principal Payment on Long Term Debt | $2,244 |
| Total Interest Payment on Long Term Debt | 462 |
| Other Finance Charges | 22 |
| **Subtotal Debt Service & other Finance Charges** | **$2,728** |
| **Subtotal Project Capital Uses of Funds** | **$7,568** |
| **Ongoing Capital Uses of Funds** | |
| Total Bus Acquisition | $766 |
| Other Ongoing Bus Capex | 129 |
| Handi-Van Acquisition | 104 |
| Total Rail Rehab and Replacement | 79 |
| **Subtotal Ongoing Capital Uses of Funds** | **$1,077** |
| **TOTAL CAPITAL USES OF FUNDS** | **$8,645** |
| **Operating Uses of Funds** | |
| Total Bus O&M Cost | $6,070 |
| Handi-Van O&M Cost | 769 |
| Total Fixed Guideway O&M Cost | 1,316 |
| **TOTAL OPERATING USES OF FUNDS** | **$8,155** |

Note: Totals may not add up due to rounding

# Chapter 2 Capital Plan

The Project is a fixed guideway system that extends from East Kapolei to UH Manoa. Cost estimates in the Alternatives Analysis and the DEIS assumes that the Project is a steel wheel on steel rail technology operating on a combination of at-grade and elevated portions of guideway using high floor vehicles and a barrier-free fare collection system. All of these assumptions could change as the project evolves; however, the cost assumptions that follow are based on these project attributes.

The following chapter describes the capital costs and funding sources associated with both the Project and the overall public transportation system. The chapter begins with the Project's base year and year of expenditure capital costs, system-wide capital costs, and the Project schedule. This is followed by a detailed explanation of the project funds, including forecasts and characteristics of each funding source and the required project financing. Finally, this chapter concludes with the system-wide capital funds available. The objective of this chapter is to demonstrate that there is an adequate level of funding available to address the capital costs associated with both the Project and the system-wide needs.

## Project Capital Costs

Table 2-1 presents total annual capital expenditures excluding finance charges in base year 2008 dollars. The total capital costs for the proposed project are $4.05 billion in 2008 dollars. These costs are inclusive of construction services, soft costs, unallocated contingency, and exclude finance charges that are detailed later in this chapter.

***Table 2-1. Annual Project Capital Cost, Excluding Finance Charges***

| Fiscal Year | Total Capital Cost (Base Year 2008 $M) | Total Capital Cost (YOE $M) |
|---|---|---|
| **2008** | 3 | 3 |
| **2009** | 9 | 10 |
| **2010** | 255 | 273 |
| **2011** | 546 | 601 |
| **2012** | 824 | 933 |
| **2013** | 750 | 873 |
| **2014** | 471 | 563 |
| **2015** | 384 | 472 |
| **2016** | 349 | 441 |
| **2017** | 236 | 307 |
| **2018** | 162 | 216 |
| **2019** | 59 | 81 |
| **Total** | **4,047** | **4,772** |

### Capital Cost Estimating Sourcing

The 2006 FTA guidelines on cost estimating were used to calculate capital cost estimates for the proposed project. Initially, unit costs for specific items were established. For example, a cost for trench excavation per cubic yard and labor to install direct fixation rail were identified. Then, the composite section costs were calculated using the unit costs to obtain total costs for the project. This cost estimation process established unit costs that were used throughout the cost estimating process

to provide uniformity and consistency throughout the analysis. Those unit costs were derived from a variety of sources, including the Hawaii Department of Transportation and the Pacific Division, Naval Facilities Engineering Command, Pearl Harbor, as well as historical sources from similar systems around the country adjusted to Hawaii.

The 2006 FTA guidelines on cost estimating were used to generate capital cost estimates in 2006 dollars. These guidelines employ standard cost categories (SCC) to establish a consistent format for the reporting, estimating, and managing of capital costs for New Starts projects. The SCCs are divided into construction-related items (items 10 through 50) and project-related items (items 60 through 100). The items are broken down as follows:

Construction-Related:
10: Guideway and Track Elements
20: Stations, Stops, Terminals, Intermodals
30: Support Facilities: Yards, Shops, Administration Buildings
40: Site Work and Special Conditions
50: Systems

Project-Related:
60: Right-of-Way, Land, Existing Improvements
70: Vehicles
80: Professional Services (design and soft costs)
90: Unallocated Contingency
100: Finance Charges

It is worth noting that the professional services soft costs (SCC item 80) are generally estimated as multipliers of the construction costs associated with them. Multipliers for professional services include preliminary engineering, final design, project management, and construction administration. The sum of all of the multipliers is 30 percent of the construction costs; the largest being 10 percent for construction administration and management. There are also specific professional services multipliers for vehicle cost (SCC 70) and right-of-way (SCC 60), which relate solely to the costs associated with those items.

The total costs in 2008 dollars, by category, are detailed in Table 2-2. Note that this table excludes finance charges.

***Table 2-2. Total Project Capital Costs by Standard Cost Category, Excluding Finance Charges***

| Standard Cost Category | Total Capital Cost (Base Year 2008 $M) | Total Capital Cost (YOE $M) |
|---|---|---|
| 10 GUIDEWAY and TRACK ELEMENTS (route miles) | 1,285 | 1,522 |
| 20 STATIONS, STOPS, TERMINALS, INTERMODAL (number) | 264 | 328 |
| 30 SUPPORT FACILITIES: YARDS, SHOPS, ADMINISTRATION BLDGS | 125 | 137 |
| 40 SITEWORK and SPECIAL CONDITIONS | 693 | 781 |
| 50 SYSTEMS | 248 | 307 |
| 60 ROW, LAND, EXISTING IMPROVEMENTS | 142 | 159 |
| 70 VEHICLES (number) | 276 | 330 |
| 80 PROFESSIONAL SERVICES | 784 | 937 |
| 90 UNALLOCATED CONTINGENCY | 229 | 270 |
| **Total Project Cost (10 - 90)** | **4,047** | **4,772** |

## Contingencies

The cost estimates include a variety of contingencies to account for unforeseen, but expected, additional expenses related to each cost category. The design/estimating construction contingency

percentages are inversely proportional to the level of design detail for each element. Other contingencies include change orders, vehicles, right-of-way and project reserve contingency. The average contingency for the project is 21 percent. For more details on contingency, refer to the Final Capital Costing Memorandum, dated October 23, 2006.

### *Project Capital Costs in Year of Expenditure Dollars*

#### Inflation

Base year dollars reflect the total cost if all expenditures occurred in 2008. YOE dollars, on the other hand, incorporate inflation to provide a sense of the costs in the year that the funds are actually expended. The Consumer Price Index for all urban consumers (CPI-U) in Honolulu is used as the baseline capital cost inflation growth rate. The Honolulu CPI-U through calendar year 2010 is based on the Hawaii State Department of Business, Economic Development and Tourism's forecast, as published in its quarterly statistical and economic report as of second quarter of 2007 and is adjusted to an FY basis.[7]

Due to near-term uncertainty in labor and materials costs, capital cost was assumed to escalate at 1.10 percent above the CPI-U growth rate in FY 2009 and 0.40 percent in FY 2010. Although non-construction cost items, such as professional services, are likely to escalate at a lower rate than construction inflation, this plan conservatively applies a construction inflation rate uniformly across all capital cost items. The corresponding inflation rates are shown in Table 2-3, which presents the breakdown of annual capital cost inflation between the baseline CPI-U and the additional step-up for construction costs.

[7] http://www.hawaii.gov/dbedt/info/economic/data_reports/qser/outlook-economy

***Table 2-3. Capital Cost Inflation Assumption***

| Fiscal Year | CPI-U Growth Rate | Step-up for Construction Costs | Total |
|---|---|---|---|
| **2008** | 4.50% | 0.00% | 4.50% |
| **2009** | 3.75% | 1.10% | 4.85% |
| **2010** | 3.15% | 0.40% | 3.55% |
| **2011** | 2.90% | 0.00% | 2.90% |
| **2012** | 2.80% | 0.00% | 2.80% |
| **2013** | 2.80% | 0.00% | 2.80% |
| **2014** | 2.80% | 0.00% | 2.80% |
| **2015** | 2.80% | 0.00% | 2.80% |
| **2016** | 2.80% | 0.00% | 2.80% |
| **2017** | 2.80% | 0.00% | 2.80% |
| **2018** | 2.80% | 0.00% | 2.80% |

### Project Schedule

The Preliminary Engineering (PE) phase is expected to extend through the middle of FY 2010, with the final design phase starting soon thereafter. Construction is expected to start in FY 2010 (once PE is complete), with mainly sitework and guideway elements. Annual capital expenditures are expected to increase significantly in 2011 and 50 percent of total capital cost should be incurred by FY 2013. Construction and start-up is expected to be completed by the end of calendar year 2018, with an opening year expected in FY 2019.

### Project Capital Cost (Year of Expenditure Dollars)

Figure 2-1 and Table 2-4 provide a breakdown of these expenditures by year. The largest cost item corresponds to the guideway and track elements, which accounts for approximately 32 percent of total capital expenditures. Professional services accounts for approximately 20 percent, while sitework and special conditions account for 16 percent. All other cost items have a share of total capital cost of less than 7 percent.

***Figure 2-1. Capital Expenditure Schedule, by cost category, YOE $Millions***

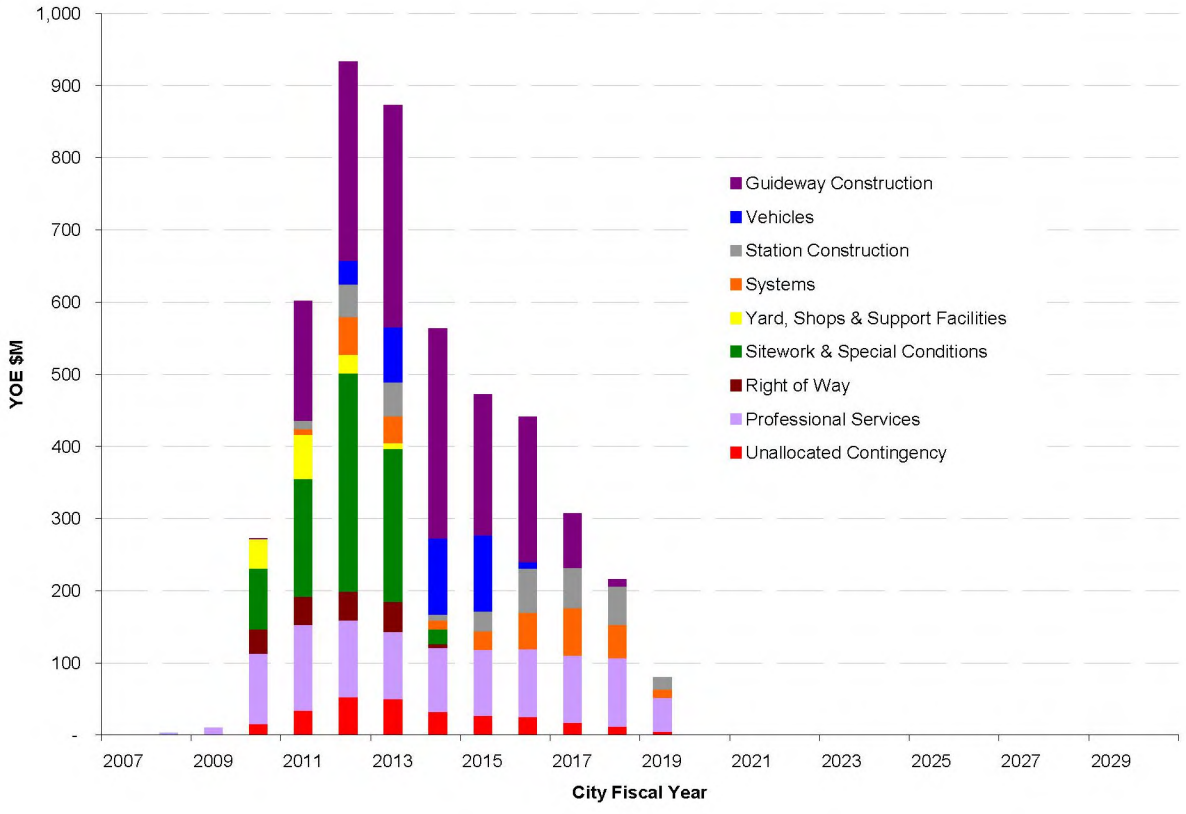


***Table 2-4. Capital Expenditure Schedule, by Cost Category Excluding Finance Charges, YOE $Millions***

| | Total | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 GUIDEWAY and TRACK ELEMENTS (route miles) | **1,522** | - | - | 1 | 166 | 276 | 308 | 290 | 195 | 201 | 75 | 10 |
| 20 STATIONS, STOPS, TERMINALS, INTERMODAL (number) | **328** | - | - | - | 12 | 45 | 46 | 8 | 28 | 62 | 56 | 53 |
| 30 SUPPORT FACILITIES: YARDS, SHOPS, ADMINISTRATION BLDGS | **137** | - | - | 40 | 62 | 26 | 8 | - | - | - | - | - |
| 40 SITEWORK and SPECIAL CONDITIONS | **781** | - | - | 85 | 163 | 302 | 212 | 20 | - | - | - | - |
| 50 SYSTEMS | **307** | - | - | - | 7 | 52 | 37 | 12 | 26 | 50 | 65 | 46 |
| 60 ROW, LAND, EXISTING IMPROVEMENTS | **159** | - | - | 33 | 39 | 41 | 42 | 6 | - | - | - | - |
| 70 VEHICLES (number) | **330** | - | - | - | - | 33 | 76 | 106 | 106 | 9 | - | - |
| 80 PROFESSIONAL SERVICES | **937** | 2 | 9 | 98 | 119 | 106 | 94 | 89 | 91 | 94 | 93 | 94 |
| 90 UNALLOCATED CONTINGENCY | **270** | 0 | 1 | 15 | 34 | 53 | 49 | 32 | 27 | 25 | 17 | 12 |
| **Total Project Cost** | **4,772** | **3** | **10** | **273** | **601** | **933** | **873** | **563** | **472** | **441** | **307** | **216** |

*Note: Totals may not add up due to rounding*

### *System-Wide and Ongoing Capital Cost*

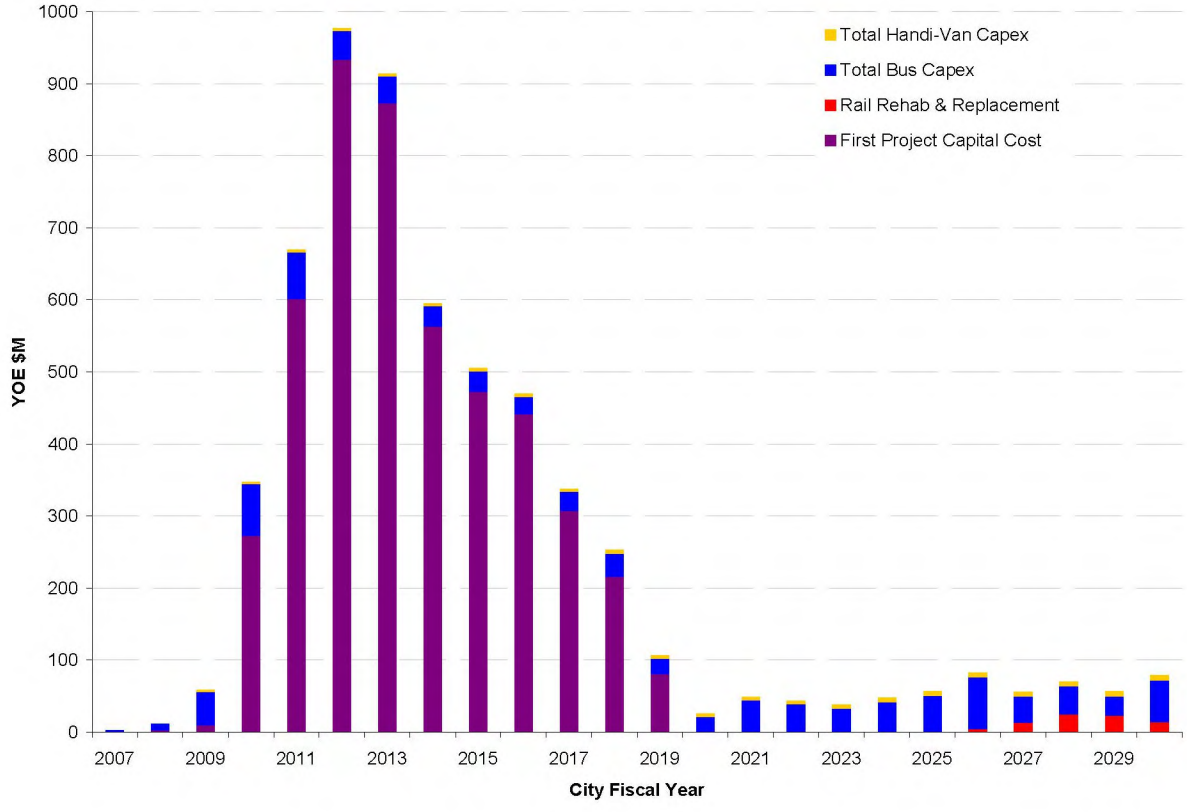
The Capital Plan includes ongoing costs to replace, rehabilitate and to maintain capital assets in a state of good repair throughout the forecast period.

**Rail rehabilitation and replacement costs:** ongoing capital costs related to the fixed guideway project are expected to be incurred beginning 16 years after initial construction activities are completed. This long-term rail rehabilitation and replacement is estimated to be $79 million in YOE dollars through 2030, equal to approximately 2 percent of annual construction cost.

**TheBus and TheHandi-Van Vehicle Acquisition:** Most changes in the transit network will result from adjustments to existing bus routes following the implementation of the fixed guideway project. Some would be re-routed to become feeder routes while others would be shortened where the fixed guideway provides improved service. To support this reconfiguration, the bus fleet is expected to grow from 525 buses in FY2007 to 563 buses by FY2030.

**Bus Facilities:** Various facilities to accommodate ongoing operations are expected to be built simultaneously with the project. The Capital Plan recognizes expenditures for bus facilities programmed in the Oahu FY 2008-2013 Transportation Improvement Plan. Examples of such projects include the design and construction of an intermodal center, maintenance facilities for TheBus and Handi-Van operations in West Oahu, and transit security projects.

***Figure 2-2. TheBus and TheHandi-Van Capital Expenditures (YOE $millions)***



## Capital Funding for the Project

The Project is expected to be entirely funded through two sources: Federal Section 5309 New Starts funds and revenues from the dedicated GET surcharge. System-wide capital costs are to be funded with FTA formula and bus allocation funds, and the City's general revenues.

### *FTA Section 5309 New Starts*

As shown in Table 2-5, New Starts funding is assumed to fund a constant $200 million per year from FY2013 to FY2018. This totals $1,200 million (YOE $) corresponding to 25 percent of total capital costs excluding finance charges.

***Table 2-5. Capital Cost Excluding Finance Charges and Assumed 5309 New Starts Funding***

| Fiscal Year | Capital Cost (YOE $millions) | 5309 New Starts (YOE $millions) |
|---|---|---|
| **2008** | 3 | - |
| **2009** | 10 | - |
| **2010** | 273 | - |
| **2011** | 601 | - |
| **2012** | 933 | - |
| **2013** | 873 | 200 |
| **2014** | 563 | 200 |
| **2015** | 472 | 200 |
| **2016** | 441 | 200 |
| **2017** | 307 | 200 |
| **2018** | 216 | 200 |
| **2019** | 81 | - |
| **2020** | - | - |
| **2021** | - | - |
| **2022** | - | - |
| **2023** | - | - |
| **Total** | **4,772** | **1,200** |

Except for recent transit projects in New York City, this is an extraordinary level of New Starts funding. Nonetheless, it is worth noting that, after adjusting for construction inflation, the assumed $1.2 billion (YOE $) is approximately equivalent to the $618 million YOE amount authorized by the Intermodal Surface Transportation Efficiency Act for the Honolulu Rapid Transit Program in 1992. Moreover, the relatively low Federal share and the dedicated local GET surcharge is a testament to the commitment of the City to the implementation of this project.

As a Federal discretionary program, New Starts funding is dependent on reauthorization levels, appropriations by Congress, as well as the nationwide competitive landscape for funding major transit capital investments. For these reasons, the assumption on New Starts funding will be discussed more extensively in Chapter 4 on Risks and Uncertainties, where several scenarios are analyzed.

### *Local GET Surcharge*

For the purposes of this Financial Plan, the GET tax base was forecasted for three different scenarios (referred to as Forecasts A, B, and C), leading to three different scenarios for GET surcharge revenues. presents these tax base forecasts with actual historical data through 2006, actual GET revenue collected for FY2007 and 2008 and forecasts from FY2009 to December 31, 2022. Per State

legislation, the surcharge rate is not applicable to business sectors otherwise taxed at 0.5 percent, 0.15 percent, or exempted. The "relevant" tax base corresponds to those businesses taxed at the standard 4 percent. [8]

The three scenarios correspond to the following forecasting methodologies:

- Forecast A – statistical projection based on historical GET tax base for Oahu since 1990
- Forecast B – projection through 2014 is based on the growth rates from the statewide forecast of GET revenues, as published by the Hawaii Council on Revenues, which are then applied to Oahu's relevant tax base. The relevant tax base is then assumed to grow with a growth stabilized to trend levels (as in Forecast A) through 2022.[9]
- Forecast C – projection through FY 2014 uses the same growth rates as in Forecast B. The relevant tax base is then assumed to grow at a more sustained growth rate through 2022.[10]

Forecast B is chosen as the baseline forecast and will be used throughout the remainder of this financial plan as it represents a good middle scenario, combining a relatively robust mid-term growth assumption, but a more conservative long-term growth. The two others will serve as a basis for sensitivity testing in the risks and uncertainty chapter.
Due to the current economic slowdown resulting from the credit crisis and the decline in the housing market, the potential for real increases (over and above projected inflation) was assumed to range from 1.4% to 1.8% depending on the scenario, yielding a nominal growth rate assumption ranging from 4.3% to 4.7%. Table 2-6 presents both real and nominal growth rates assumptions for the GET tax base forecasts between FY 2009 and FY 2022, along with the history from 2000 to 2006. The CPI-U for Honolulu, as defined in the capital cost section above, was used for escalating revenues from the GET surcharge.

***Table 2-6. Compound Average Annual Growth Rates for Three Tax Base Forecast Scenarios during Different Time Periods and history between 2000 and 2007***

| | 2000-2007 | 2008-2022 | 2008-2014 | 2014-2022 |
|---|---|---|---|---|
| Nominal Annual Growth Rates | | | | |
| Forecast A | 6.6% | 4.3% | 4.5% | 4.3% |
| Forecast B | | 4.5% | 4.9% | 4.3% |
| Forecast C | | 4.7% | 4.9% | 4.6% |
| Real Annual Growth Rates | | | | |
| Forecast A | 3.6% | 1.4% | 1.4% | 1.4% |
| Forecast B | | 1.6% | 1.8% | 1.4% |
| Forecast C | | 1.8% | 1.8% | 1.8% |

8 For more information on the GET tax base, the reader can refer to the Funding options report dated August 7, 2006

9 Source: Mar 12, 2008 forecast available at http://www.state.hi.us/tax/cor/2008gf03_with0314_Ltr2Gov-Final.pdf

10 Ibid

**Adjustments**

To forecast the surcharge revenues presented in Table 2-7 below, two additional adjustments were made:

1) Generally, the GET surcharge is levied on gross income earned from any transaction related to an Oahu customer. When computing their GET payments, taxpayers must identify their gross incomes earned from Oahu transactions and apply the 0.5 percent surcharge rate to that amount. To estimate the amount attributable to the Oahu transactions, the relevant tax base was reduced by 17 percent. The 17 percent adjustment represents Oahu's share of the State's de facto population (67 percent on average over the next 30 years) [11] and Oahu's share of the State's GET tax base (around 80.1 percent).[12]The adjustment is conservative in the sense that it assumes the GET-related economic activity per capita is the same on Oahu as on the neighbor islands – whereas, in actuality, activity is likely more dense in Oahu due to the enhanced productivity of the Honolulu central business district.

2) State legislation stipulates that 10 percent of the annual tax revenues would be withheld by the State for tax collection and administration purposes.

The total impact of these two adjustments is a reduction of 25.3 percent in annual GET surcharge revenues. The resulting net annual revenues are presented in Table 2-7 for the three scenarios in 2008 and YOE $. In the remainder of this report, as in Table 2-7, the net GET revenues will be displayed on a cash basis. In FY 2007 (ending on June 30, 2007), GET surcharge cash revenues collected by the City totaled $12.79 million , equivalent to the revenues collected during the first quarter of calendar year 2007.. This number excludes the quarterly and semi-annual tax filers that account for about 7 percent of businesses. The number also excludes February tax returns due to the fact that the corresponding tax returns were not due until April 2nd and March tax returns, which were not due until Aril 30th. These reasons explain the relatively low revenue collection for that period. The State of Hawaii Department of Taxation also indicated that "approximately 15 percent of tax returns received through March 2007 left blank the section where taxpayers report their county surcharge". [13]

The State subsequently issued additional guidance on the most common errors to avoid when filing GET tax returns and has expressed its commitment to recover the uncollected amounts. Without specific information on timing for this recovery to occur, the financial analysis presented herein conservatively assumes that the money is not recovered.

The first full fiscal year of GET surcharge revenues was FY2008, with a total of $161 million. In FY 2023 (from July 1, 2022 to June 30, 2023), net GET surcharge cash revenues are expected to total three quarters worth of tax collection. The forecast below is expected to be refined regularly as more

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[11] Contrary to the resident population, the de facto population includes military personnel, tourists and visitors from other counties residing even temporarily in Oahu

[12] 17 percent= 100 percent minus (67 percent divided by 81 percent)

[13] News Release dated April 17, 2007 available at http://www.state.hi.us/tax/media/2007-04-17-fst_qtr_csurchg_collections.pdf

tax collection data becomes available. As shown in Table 2-7, Forecast B is projected to total $3.9 billion (YOE $).

***Table 2-7. Annual Net GET Surcharge Revenues (Cash Basis), 2007-2023***

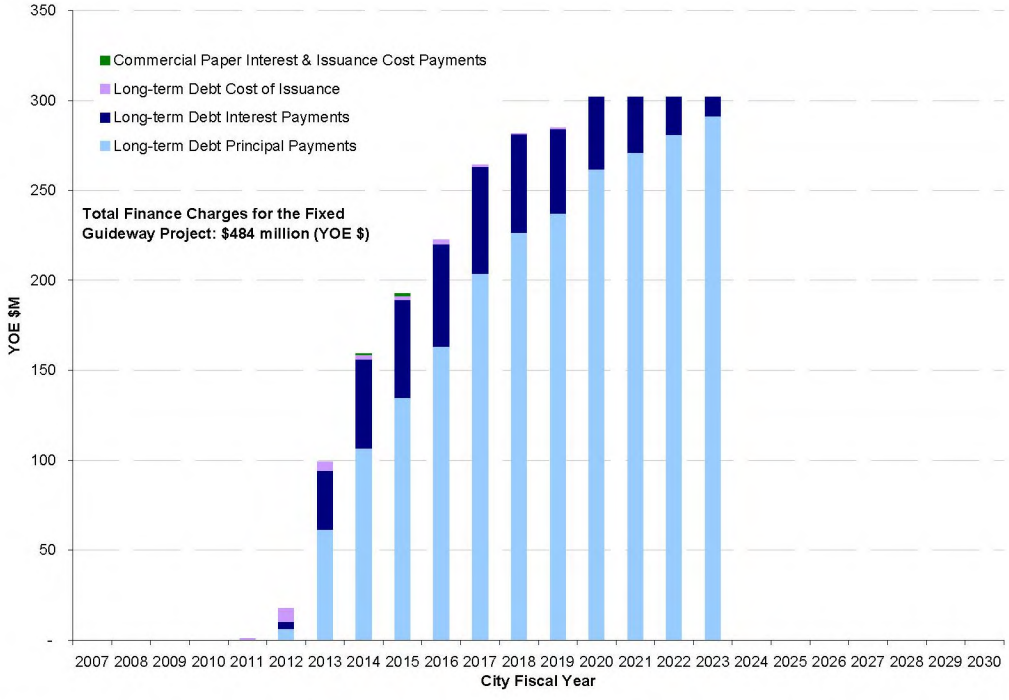
| Fiscal Year | Forecast A | | Forecast B | | Forecast C | |
|---|---|---|---|---|---|---|
| | 2008 $million | YOE $million | 2008 $million | YOE $million | 2008 $million | YOE $million |
| **2007** | 13 | 13 | 13 | 13 | 13 | 13 |
| **2008** | 161 | 161 | 161 | 161 | 161 | 161 |
| **2009** | 183 | 190 | 181 | 188 | 181 | 188 |
| **2010** | 187 | 200 | 185 | 198 | 185 | 198 |
| **2011** | 188 | 207 | 188 | 207 | 188 | 207 |
| **2012** | 191 | 216 | 189 | 214 | 189 | 214 |
| **2013** | 195 | 227 | 196 | 228 | 196 | 228 |
| **2014** | 195 | 233 | 202 | 242 | 202 | 242 |
| **2015** | 198 | 244 | 206 | 253 | 206 | 253 |
| **2016** | 202 | 256 | 210 | 265 | 209 | 264 |
| **2017** | 203 | 264 | 211 | 274 | 213 | 277 |
| **2018** | 206 | 275 | 213 | 285 | 217 | 289 |
| **2019** | 211 | 289 | 218 | 300 | 220 | 303 |
| **2020** | 211 | 298 | 219 | 309 | 224 | 317 |
| **2021** | 214 | 310 | 221 | 321 | 228 | 331 |
| **2022** | 218 | 325 | 226 | 337 | 232 | 347 |
| **2023** | 164 | 251 | 170 | 261 | 177 | 272 |
| **Total** | **3,140** | **3,959** | **3,208** | **4,054** | **3,241** | **4,102** |

As mentioned earlier, Forecast A is based on a historical trend from 1990. While the period between 1990 and 2000 saw negative real growth and a low rate of inflation, the previous decade was one of strong economic growth, mainly fueled by foreign investment in real estate. During that decade, GET grew by more than 8 percent, and even more than 10 percent in the second half of the decade. Forecast A is the most pessimistic forecast under the current conditions. Forecast B, which exhibits more sustained growth, is chosen as the base case in the remainder of this Chapter, and Forecast C will be considered as a potential optimistic scenario in Chapter 4 on risks and uncertainties.

### *Construction Financing*

In the base case (GET Forecast B and $1,200 million in New Starts), the project exhibits a positive cash balance through 2012 without the need for debt financing. Starting in 2012, GO Bonds would be issued every year through the last year of construction in 2018 and repaid with GET surcharge revenues. The cash flow available for debt service is constrained by the fact that the surcharge is expected to expire on December 31, 2022 (FY 2023), therefore, any bond issuance is assumed to mature no later than that date. Since a general obligation pledge is assumed, no coverage or debt service reserve fund was assumed on bond proceeds. A conventional mortgage-type amortization schedule with a level debt service repayment is assumed for each bond issue, which implies an increasing total debt service profile through FY 2023, as shown in Figure 2-3. This construct allows testing the Financial Plan feasibility by measuring the amount of revenues required over and above GET revenues.

***Figure 2-3. Principal and Interest Payments on Bond Proceeds and Commercial Paper Proceeds, YOE $Millions***




### Finance Assumptions

This financial analysis assumes that GET surcharge revenue will be the only source of funding through FY2012, with FTA New Starts funding assumed to start in FY2013.

In years where GET surcharge revenues and/or New Starts funding are not by themselves sufficient to meet the cash flow requirement to cover capital expenditures, a mix of City GO Bonds and short-term borrowing would be used to bridge the funding gap. The weighted average interest rate on long term

debt is 3.71 percent, consistent with the City's current AA rating and is based on rates as of Jul 17, 2008. All GO debt is assumed to mature in FY2023, corresponding to the last fiscal year of receipt of GET revenues. The use of short-term debt (assumed to be Tax-Exempt Commercial Paper (TECP)) during construction is advantageous because debt instruments of shorter maturity generally have lower interest rates than longer term debt. TECP provides a particularly low-interest form of borrowing in which interest-only payments are made and the principal balance is simply refinanced annually during construction, and ultimately refinanced with longer term debt towards the end of the construction period.

Finance charges incurred for the Project are $484 million for the issuance of GO Bonds and short-term debt. The vast majority of the finance charges correspond to interest payments on GO Bonds. The remainder is composed of finance charges related to the cost of issuance of GO Bonds and short-term debt as well as interest expense of commercial paper.

### *Other Potential Capital Sources*

Based on the forecasted GET surcharge revenues and the assumed New Starts funding level, the project is not expected to require any other source of funds.

Private sources of funds or non-cash contributions could be another potential source. This Financial Plan conservatively assumes that no private sources would be available, but opportunities for private-public participation along the corridor are possible.

A third option would be to direct other Federal funding (such as Section 5307 formula funds) toward the proposed project. This option, however, would have to be compensated by an increase in the City's contribution to necessary capital improvements to the rest of the system. Therefore, other FTA programs were not envisioned to be used for the implementation of the Project. Other potential mitigation strategies are discussed in the Risks and Uncertainties Section in Chapter 4.

### *Project Sources and Uses*

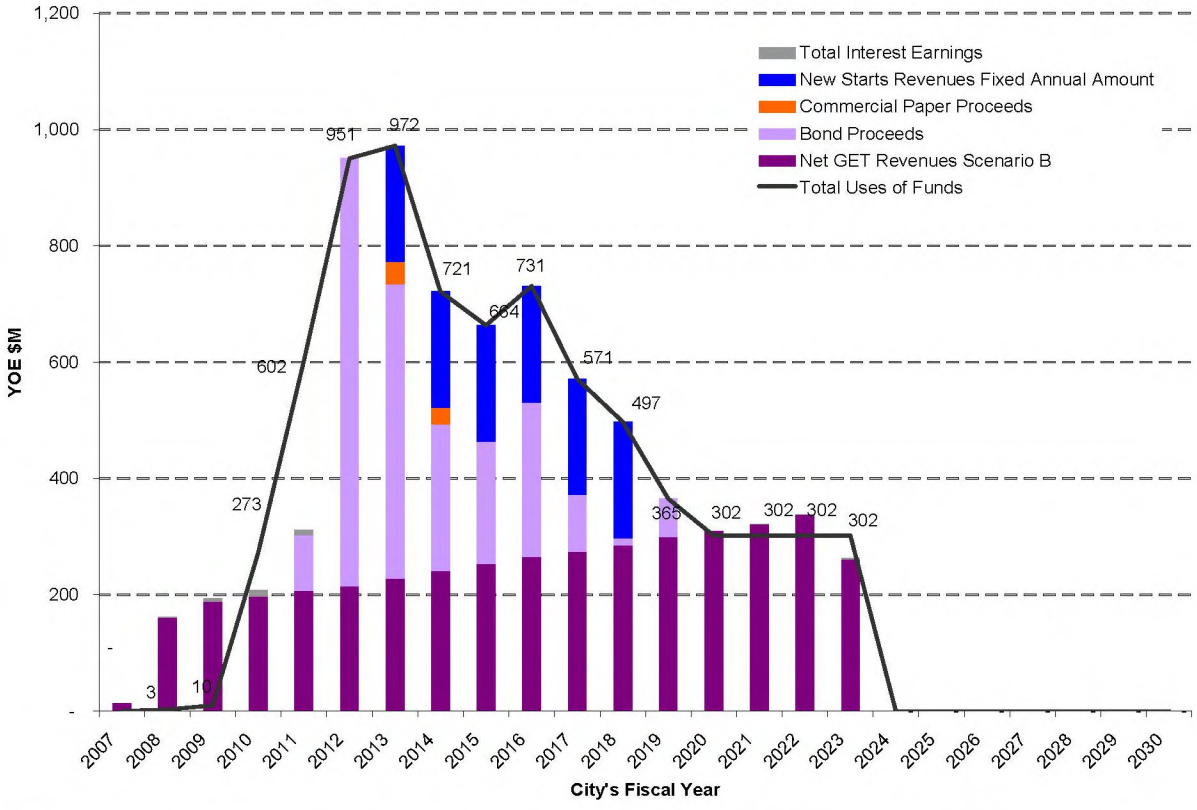
Table 2-8 summarizes the sources and uses of funds for the project.

***Table 2-8. Total Sources and Uses of Funds for the Project (YOE $millions)***

| FIXED GUIDEWAY SOURCES AND USES OF FUNDS | YOE $M |
|---|---|
| **FUNDING SOURCES** | |
| Net GET Revenues | $4,054 |
| Bond Proceeds | 2,244 |
| Commercial Paper Proceeds | 66 |
| FTA 5309 New Starts Revenues | 1,200 |
| Interest Earnings | 28 |
| Debt Service Payments from Other Revenue Sources | 0 |
| **TOTAL FUNDING SOURCES** | **$7,592** |
| | |
| **USES OF FUNDS** | |
| **Capital Expenses** | |
| First Project Capital Cost | $4,772 |
| Commercial Paper Refinancing Amount | 67 |
| **Total Capital Expenses** | **$4,839** |
| **Debt Service & other Finance Charges** | |
| Total Principal Payment on Long Term Debt | $2,244 |
| Total Interest Payment on Long Term Debt | 462 |
| Other Finance Charges | 22 |
| **Total Debt Service and Other Finance Charges** | **$2,728** |
| **TOTAL USES OF FUNDS** | **$7,568** |

Figure 2-4 provides more details on the breakdown of sources of funds between bond proceeds, New Starts, and GET on a pay-as-you-go basis. In the base case, the amount of bond proceeds used, as a percentage of total uses of funds, equals 31 percent, while the amount of pay-as-you-go funding totals 69 percent (this includes GET used as pay-as-you-go as well as New Starts revenues and interest earnings).

***Figure 2-4. Proposed Project Sources and Uses of Funds (YOE $millions)***




Note: Totals may not add up due to rounding

### Project Cash Flow

Table 2-8 presents the summary cash flow and cash balance for the stand-alone project with the Forecast B GET revenue scenario. This results in the project being funded on a pay-as-you-go basis through FY 2010. Starting in FY 2011, bond proceeds become necessary. The level of debt service also rises accordingly and the cash balance does not rise again until FY 2020, when the fixed guideway is introduced. The positive cash balance between 2019 and 2023 is used to repay part of the last year's debt service, which explains the decrease in cash in the last year. To maximize the use of all revenues available, bond proceeds are sized such that the cash balance at the project level is equal to zero at the end of each FY. The remaining $24 million cash balance from GET in FY 2023 could be transferred to operations of the Project or set aside in a rail rehab and maintenance fund for future use. Consistent with the spirit of the State legislature, this amount can only be used toward capital or operating expenses f fixed guideway projects..

## *Table 2-9. Project Sources and Uses of Funds (YOE $millions)*

| City Fiscal Year | UNIT | 2007-2030 TOTAL | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Funding Sources** | | | | | | | | | | | | | | | | | | | |
| Net GET Revenues | YOE $M | 4,054 | 13 | 161 | 188 | 198 | 207 | 214 | 228 | 242 | 253 | 265 | 274 | 285 | 300 | 309 | 321 | 337 | 261 |
| Bond Proceeds | YOE $M | 2,244 | - | - | - | - | 96 | 737 | 507 | 252 | 211 | 266 | 98 | 13 | 66 | - | - | - | - |
| Commercial Paper Proceeds | YOE $M | 66 | - | - | - | - | - | - | 38 | 28 | - | - | - | - | - | - | - | - | - |
| FTA 5309 New Starts Revenues | YOE $M | 1,200 | - | - | - | - | - | - | 200 | 200 | 200 | 200 | 200 | 200 | - | - | - | - | - |
| Interest Earnings | YOE $M | 28 | - | 0 | 5 | 11 | 9 | - | - | - | - | - | - | - | - | - | 0 | 1 | 2 |
| Additional Capital Revenues | YOE $M | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Total Project Sources of Funds** | **YOE $M** | **7,592** | **13** | **161** | **193** | **208** | **312** | **951** | **972** | **721** | **664** | **731** | **571** | **497** | **365** | **309** | **322** | **338** | **262** |
| **Project Capital Uses of Funds** | | | | | | | | | | | | | | | | | | | |
| Project Capital Cost | YOE $M | 4,772 | - | 3 | 10 | 273 | 601 | 933 | 873 | 563 | 472 | 441 | 307 | 216 | 81 | - | - | - | - |
| Commercial Paper Refinancing Amount | YOE $M | 67 | - | - | - | - | - | - | - | - | - | 67 | - | - | - | - | - | - | - |
| **Total Capital Uses of Funds** | **YOE $M** | **4,839** | **-** | **3** | **10** | **273** | **601** | **933** | **873** | **563** | **472** | **508** | **307** | **216** | **81** | **-** | **-** | **-** | **-** |
| **Debt Service** | | | | | | | | | | | | | | | | | | | |
| Total Principal Payment on Long Term Debt | YOE $M | 2,244 | - | - | - | - | - | 6 | 61 | 107 | 135 | 163 | 204 | 226 | 237 | 262 | 271 | 281 | 291 |
| Total Interest Payment on Long Term Debt | YOE $M | 462 | - | - | - | - | - | 4 | 33 | 49 | 55 | 57 | 60 | 55 | 47 | 40 | 31 | 21 | 11 |
| Other Finance Charges | YOE $M | 22 | - | - | - | - | 1 | 7 | 5 | 3 | 2 | 3 | 1 | 0 | 1 | - | - | - | - |
| **Total Project Uses of Funds** | **YOE $M** | **7,568** | **-** | **3** | **10** | **273** | **602** | **951** | **972** | **721** | **664** | **731** | **571** | **497** | **365** | **302** | **302** | **302** | **302** |
| **Project Cash Balance** | | | | | | | | | | | | | | | | | | | |
| **Cash Balance Beginning** | | | **-** | **13** | **171** | **355** | **290** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **7** | **27** | **63** |
| Additions (deletions) to cash | | | **13** | **159** | **184** | **(64)** | **(290)** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **7** | **20** | **36** | **(39)** |
| **Cash Balance Ending** | | | **13** | **171** | **355** | **290** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **7** | **27** | **63** | **24** |

Notes:

- Amounts are presented on a cash basis
- Totals may not ad due to rounding

Table 2-10 summarizes the Federal and non-Federal funds described above and projected in the base case to fund the Project.

Table 2-10. Summary of Federal and Non-Federal Fund Sources

| Sources of Funds | Funding Level (base case), YOE $million | Funding Share | Level of Commitment | Evidence of Commitment |
|---|---|---|---|---|
| **Federal:** FTA 5309 New Starts | **$1,200** | 22.8% | N/A | N/A |
| **Non Federal:** General Excise and Use Tax 0.5 percent surcharge | **$4,054** | 77.2% | Committed and dedicated to a fixed guideway project | Enabling legislation:<br>• State Act HB 1309 CD-1 (see Appendix C) ;<br>• City and County of Honolulu Ordinance 05-027 (see Appendix C)<br>• Selection of a fixed guideway system for an LPA (see Appendix A) |
| **Total Project Budget** | **$5,254** | **100%** | | |

### *Capital Funding Sources for the System*

While the New Starts funding and GET surcharge revenues are projected to be adequate to fund the project costs, other sources of funding will continue to be relied upon to fund the existing TheBus and TheHandi-Van systems. The following section discusses these federal funding and local funding sources.

#### Federal Funds

The three main sources for federal funds are as follows:

- FTA Urbanized Area Formula Program (49 U.S.C. Section 5307)
- FTA Capital Investment Grants (49 U.S. C. Section 5309) – Fixed Guideway Modernization Program
- FTA Capital Investment Grants – Bus and Bus-Related Equipment and Facilities Program

The City should expect to see increases in the levels of these funding sources once the Project is implemented. Each of the following sections details the expected revenues from each source before and after the Project is in operation.

*FTA Urbanized Area Formula Program (Section 5307)*

Section 5307 funds are apportioned on the basis of legislative formula. The City is the designated recipient for Section 5307 funds apportioned to the Honolulu and Kailua-Kaneohe (Kailua) urbanized areas.

For areas of 50,000 to 199,999 in population (such as the Kailua-Kaneohe urbanized area), the formula is based on population and population density.

For areas with populations of 200,000 and more (such as the Honolulu urbanized area), the formula is based on a combination of bus revenue vehicle miles, bus passenger miles, fixed guideway revenue vehicle miles, and fixed guideway directional route miles, as well as population and population density. .The term "fixed guideway" refers to any transit service that uses exclusive or controlled rights-of-way or rails, entirely or in part. The term includes that portion of transit service operated on exclusive or controlled rights-of-way and high-occupancy vehicle (HOV) lanes. In Honolulu, this currently includes bus service operating on the Fort Street Transit Mall, the H-1 zipper lane, and HOV lanes on various roadways.

Activities eligible for Section 5307 funds include planning, engineering design, and evaluation of transit projects and other technical transportation-related studies; capital investments in bus and bus-related activities, such as replacement of buses, overhaul of buses, rebuilding of buses, crime prevention and security equipment, and construction of maintenance and passenger facilities; capital investments in new and existing fixed guideway systems; and preventive maintenance.

displays the City's historical and forecasted vehicle revenue miles. The existing bus system is assumed to grow as it was expected to do under the "No Build" scenario. TheBus system will be re-aligned with new and reconfigured bus routes to accommodate service associated with the Project. The years between 2019 and 2030 reflect minimal changes in total vehicle revenue miles.

***Table 2-11: Revenue Vehicle Miles 2007, 2030***

| | FY2007 | FY2030 |
|---|---|---|
| TheBus | 17,429,135 | 20,304,619 |
| TheHandi-Van | 4,368,000 | 5,565,000 |
| Fixed Guideway | - | 5,538,470 |

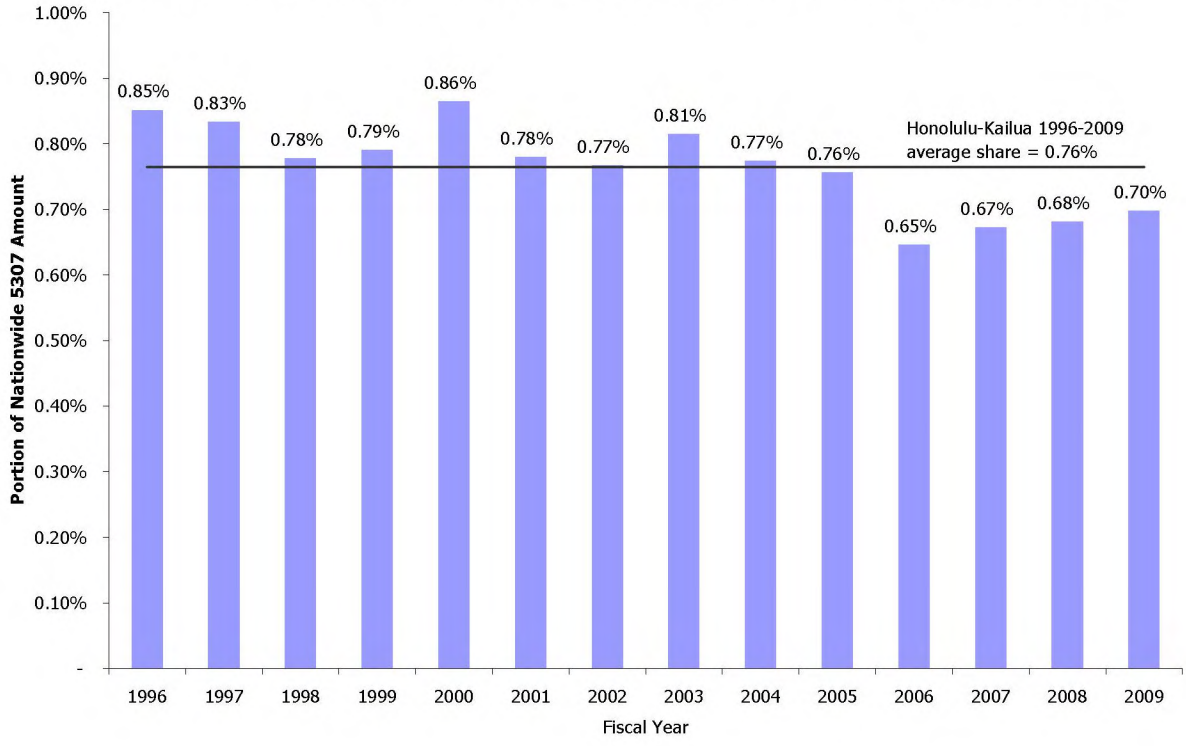
Estimated apportionments have been made by FTA for years 2008 and 2009.[15] For all subsequent years, the methodology used to forecast 5307 funds is as follows:

Step 1 – The total national funding available for the 5307 program was projected. A constant 1.8 percent annual growth rate was applied starting in FY 2010. This growth rate is consistent with the Congressional Budget Office forecast of the Highway Trust Fund revenues through 2017 and is assumed to remain the same through 2030.[16]
Step 2 – Honolulu and Kailua's share of the total nationwide amount was assumed to remain equal to its 14-year average of 0.76 percent. This assumption appears to be reasonable because the share has remained relatively stable between 1996 and FTA's 2009 estimate. It reached a minimum of 0.65 percent in FY 2006 due to a 34-day strike in 2004, and a maximum of 0.86 percent in 2000 (see Figure 2-5).

[15] Revised March 20, 2007

[16] CBO testimony: Status of the highway trust fund : 2007, March 27, 2007

***Figure 2-5. Honolulu and Kailua's Share of Nationwide 5307 Program Amount***

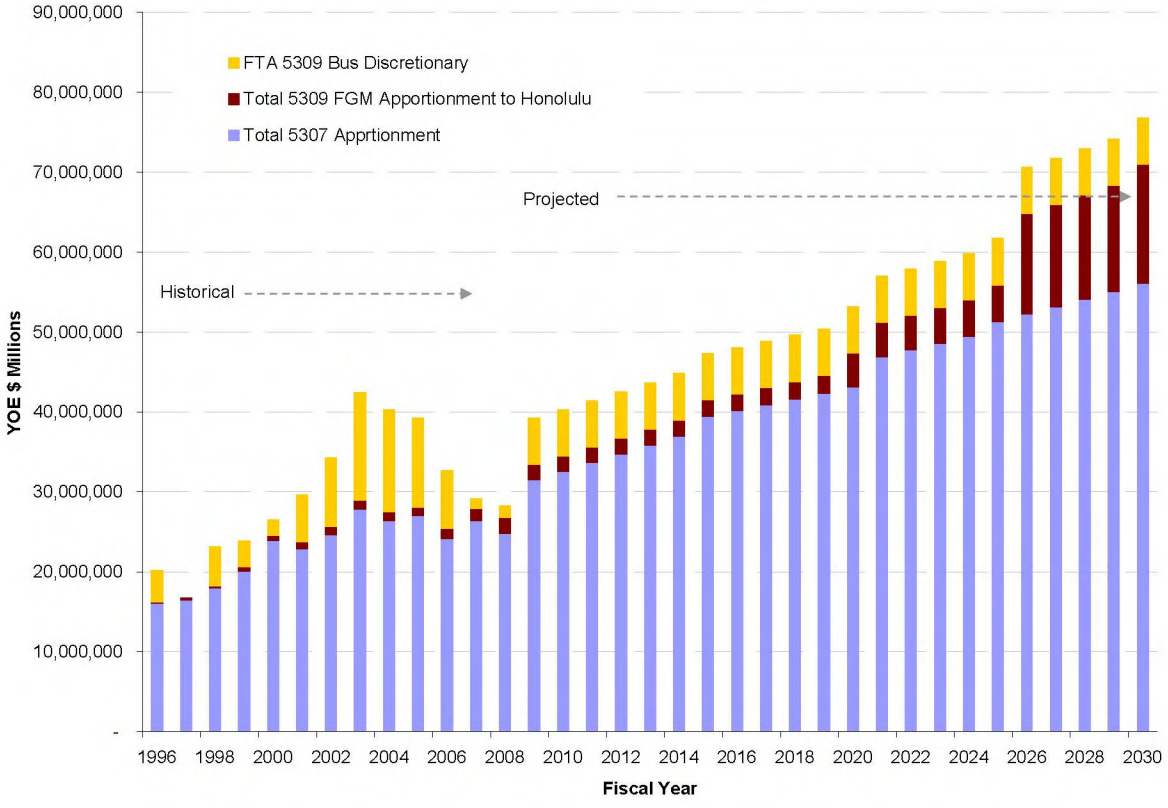



Step 3 – The 0.77% average from Step 2 was applied to the forecasted national amount from Step 1. An adjustment was then made by deducting a funding transfer to the State for its vanpool program. This transfer totaled $1.1 million in FY 2006 and is expected to grow at the same rate as the national total (1.8 percent).

Step 4 – In addition to the base growth rate obtained with the first three steps, 5307 revenues are further increased two years after the introduction of the fixed guideway system. The corresponding net increase is estimated at 18 percent in FY 2021. To a lesser extent, a similar jump occurs in FY 2025, following the implementation of a new two-lane HOV facility, consistent with the Oahu long range transportation plan. This also explains the slightly higher CAGR of 2.03 percent observed between 2021 and 2030 compared to 1.79 percent 2010-2018 period (see Figure 2-6)

Year-by-year Section 5307 revenues are presented in the summary capital funding sources in Figure 2-9.

***Figure 2-6. FTA Section 5307 Formula Funds Historical and Projected Apportionments, 5309 FGM Historical and Projected Apportionments and FTA 5309 Bus Discretionary[17]***




Under Federal law, it is possible for 5307 funds to be used for preventative maintenance needs, which is part of a transit system's operations and maintenance (O&M) cost. In Honolulu, as a general rule, 5307 funds are first applied to capital needs, with any surplus being transferred to preventative maintenance. Based on historical trends, it is assumed that a maximum of 20 percent of the total operating and maintenance expenditures can be covered by 5307 funds.

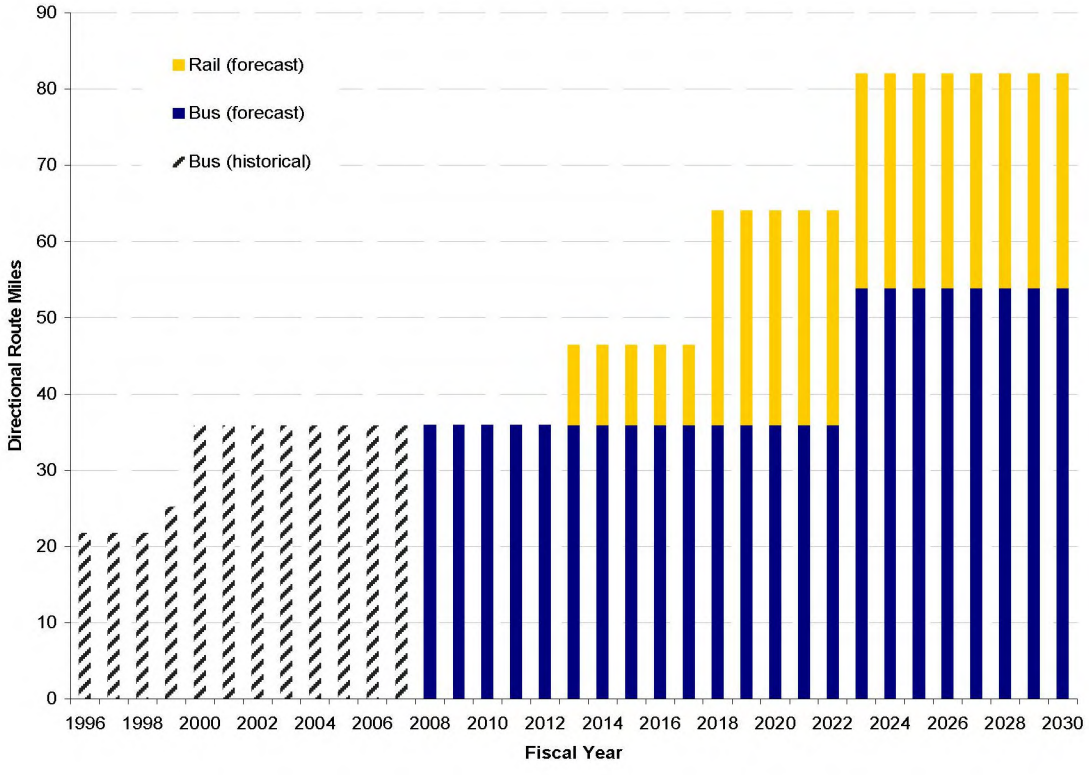
*Section 5309 Capital Investment Grants – Fixed Guideway Modernization Program (FGM)*

Similar to Section 5307 funds, FGM funds are apportioned using a federal formula specified by law. Honolulu's apportionment is based on the amount of fixed guideway directional and revenue vehicle miles on facilities in operation at least seven years.

Figure 2-7 presents historical and forecasted directional fixed guideway route miles, which play an important role in the formula for calculating Section 5309 FGM apportionments. In addition to the increase due to the Project, a new HOV project is assumed to be introduced in FY 2023, thereby increasing the directional route miles in that year.

[17] Starting in FY 2006, includes 5340 (high density and growing States UZA funding)

***Figure 2-7. Fixed Guideway Directional Route Miles***




Apportionment amounts for FYs 2008 and 2009 reflect FTA's estimates. For FYs 2010 to 2030, the apportionment amounts are assumed to grow at an annual rate of 1.8 percent, consistent with the Congressional Budget Office forecast of the Highway Trust Fund revenues through 2017, extended through 2030. As with the Section 5307 funds, the Project will lead to an increase in the formula apportionment amount due to the increased amount of service on fixed guideway facilities. As shown in Figure 2-6, the change in FGM funds occurs seven years after the introduction of the fixed guideway system. The implementation of the HOV lanes in FY 2023 has an impact on the FY 2030 apportionment estimate

*FTA Section 5309 Bus and Bus-Related Facilities Program (Bus Capital)*

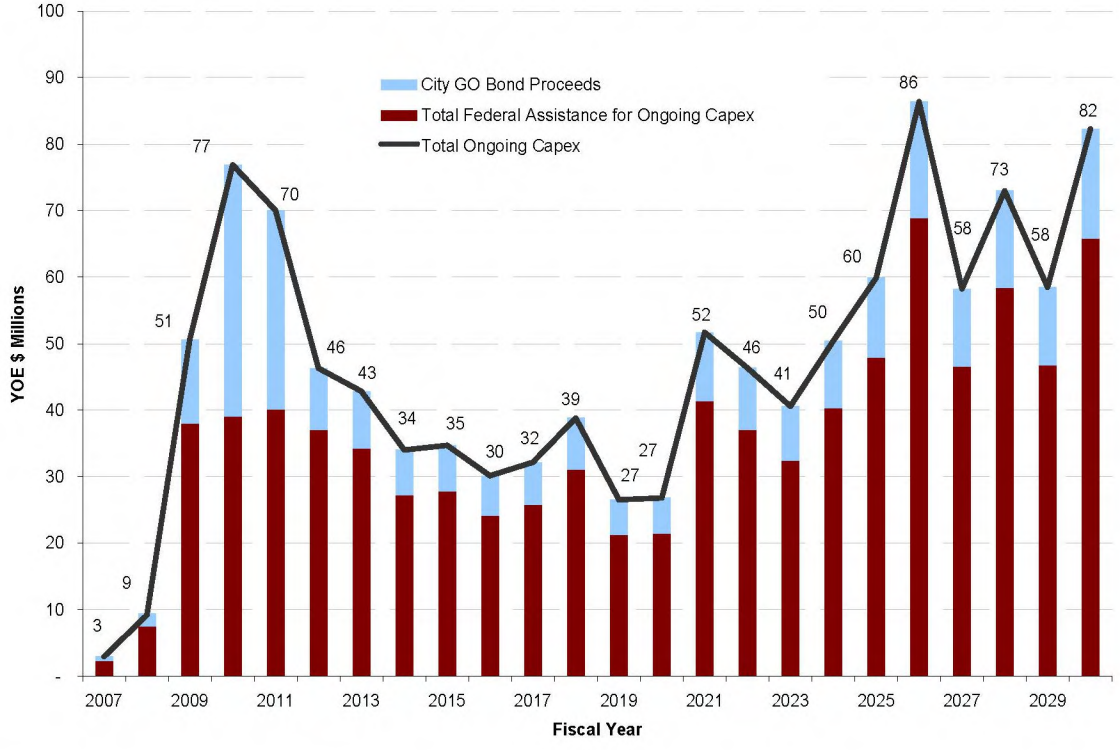
Bus Capital funds can be allocated at the discretion of the Secretary of the U.S. Department of Transportation, although Congress has been fully earmarking all available funding. Eligible purposes for this funding source include: acquisition of buses for fleet and service expansion; bus maintenance and administrative facilities; transfer facilities; bus malls; transportation centers; intermodal terminals; park-and-ride stations; acquisition of replacement vehicles; bus rebuilds; bus preventative maintenance; passenger amenities, such as passenger shelters and bus stop signs; accessory and miscellaneous equipment, such as mobile radio units; supervisory vehicles; fareboxes; and computers, shop, and garage equipment. All bus-related elements of the Project are eligible for Bus Capital funds, if so allocated by Congress.

The discretionary nature of this program makes the level of funding difficult to predict. Based on Honolulu's success at receiving earmarks in the past, this analysis assumes that Honolulu's Bus Capital allocations between 2008 and 2030 will be equal to the average of the allocations between 1996 and 2007. See Figure 2-6 for historical and projected federal apportionments

### *Local Capital Assistance for the System*

The City will issue GO Bonds to construct bus facilities and to purchase equipment and rolling stock. The City is required to match all FTA funding programs with at least 20 percent of local funds. This Financial Plan, therefore, assumes that at least 20 percent of each year's ongoing capital needs is matched at that level. This excludes the capital needs for the Project since it has the benefit of a dedicated source of revenue that cannot be directed to another purpose. With the FTA revenues described above, the City is sometimes required to contribute more funds to ensure that projected capital needs are met. As shown in Figure 2-8, that is especially true in the years prior to completion of the Project.

***Figure 2-8. Ongoing Capital Sources of Funds for the System (YOE $millions)***




### Borrowing, Debt Level, and Ratings

As mentioned previously, local capital assistance may be needed in the event that GET surcharge revenues and New Starts funds are insufficient to meet the capital requirements of the Project. The city's ability to issue debt and maintain its current credit rating depends in large part on its ability to follow the following rules and guidelines:

- **Legal Debt Limit:** The State of Hawaii Constitution (Act VII, Section 12 and 13) requires any one county to have a total outstanding funded debt equal to no more than 15 percent of that county's total assessed value of real property for tax purposes.
- **City Council "Affordability Guidelines":** To preserve its credit quality, the City Council further developed affordability guidelines, last amended by Resolution 03-59, CD1, "which may be suspended for emergency purposes or because of unusual circumstances." These guidelines include the following:
  - Debt service for general obligation bonds, including self-supported bonds and enterprise and special revenue funds, should not exceed 20 percent of the City's total operating budget.

- Debt service on direct debt, excluding self-supported bonds, should not exceed 20 percent of the General Fund revenues.
- Other guidelines include a limitation on the City's variable debt rate and debt refunding policy.

Assuming the City's Standard & Poor's credit rating of AA is maintained and the affordability guidelines are applicable in future years, the limitations on GO debt can be calculated for future years based on growth assumptions in assessed property values, General Fund revenues, and the Operating Budget. This analysis reveals that the affordability guideline on the percentage of General Fund revenue mentioned above is expected to be the most limiting factor in calculating the debt margin.

The Project would need to compete with other City projects requiring debt financing. The debt limits above are applicable to any projects being financed by the City and County of Honolulu, given that the debt is not self-supported or in the form of revenue bonds. The extent to which the City can issue debt for the Project will depend on how much debt issuance is needed for other high priority projects. The major capital improvements that the City is likely to undertake in the coming years are sanitation projects, such as sewage collection and disposal projects. The bond proceeds used to fund these capital investments are expected to be self-supported by increases in sewer service charges and are unlikely to require the issuance of GO debt.

*Note on the City's Credit Rating:*

Honolulu's debt rating was recently upgraded on December 5, 2006 by Standard & Poor's from AA- to AA due to its financial transparency and responsibility. The potential for economic growth resulting from the investment in a fixed-guideway system also played a part in the upgrade.

# Summary of Capital Plan

***Figure 2-9. Summary of Capital Sources and Uses of Funds, (YOE $millions)***

| City Fiscal Year | UNIT | 2007-2030 TOTAL | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Funding Sources** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Net GET Revenues | YOE $M | 4,054 | 13 | 161 | 188 | 198 | 207 | 214 | 228 | 242 | 253 | 265 | 274 | 285 | 300 | 309 | 321 | 337 | 261 | - | - | - | - | - | - | - |
| Bond Proceeds | YOE $M | 2,244 | - | - | - | - | 96 | 737 | 507 | 252 | 211 | 266 | 98 | 13 | 66 | - | - | - | - | - | - | - | - | - | - | - |
| Commercial Paper Proceeds | YOE $M | 66 | - | - | - | - | - | - | 38 | 28 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| FTA 5309 New Starts Revenues | YOE $M | 1,200 | - | - | - | - | - | - | 200 | 200 | 200 | 200 | 200 | 200 | - | - | - | - | - | - | - | - | - | - | - | - |
| Interest Earnings | YOE $M | 28 | - | 0 | 5 | 11 | 9 | - | - | - | - | - | - | - | - | - | 0 | 1 | 2 | - | - | - | - | - | - | - |
| Additional Capital Revenues | YOE $M | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Total Project Sources of Funds** | **YOE $M** | **7,592** | **13** | **161** | **193** | **208** | **312** | **951** | **972** | **721** | **664** | **731** | **571** | **497** | **365** | **309** | **322** | **338** | **262** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Project Capital Uses of Funds** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project Capital Cost | YOE $M | 4,772 | - | 3 | 10 | 273 | 601 | 933 | 873 | 563 | 472 | 441 | 307 | 216 | 81 | - | - | - | - | - | - | - | - | - | - | - |
| Commercial Paper Refinancing Amount | YOE $M | 67 | - | - | - | - | - | - | - | - | - | 67 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Total Capital Uses of Funds** | **YOE $M** | **4,839** | **-** | **3** | **10** | **273** | **601** | **933** | **873** | **563** | **472** | **508** | **307** | **216** | **81** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Debt Service** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Principal Payment on Long Term Debt | YOE $M | 2,244 | - | - | - | - | - | 6 | 61 | 107 | 135 | 163 | 204 | 226 | 237 | 262 | 271 | 281 | 291 | - | - | - | - | - | - | - |
| Total Interest Payment on Long Term Debt | YOE $M | 462 | - | - | - | - | - | 4 | 33 | 49 | 55 | 57 | 60 | 55 | 47 | 40 | 31 | 21 | 11 | - | - | - | - | - | - | - |
| Other Finance Charges | YOE $M | 22 | - | - | - | - | 1 | 7 | 5 | 3 | 2 | 3 | 1 | 0 | 1 | - | - | - | - | - | - | - | - | - | - | - |
| **Total Project Uses of Funds** | **YOE $M** | **7,568** | **-** | **3** | **10** | **273** | **602** | **951** | **972** | **721** | **664** | **731** | **571** | **497** | **365** | **302** | **302** | **302** | **302** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| **Funding Sources for Ongoing System-wide Capital cost** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Federal Assistance for Ongoing Capex | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FTA 5309 Fixed Guideway Modernization | YOE $M | 119 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 4 | 5 | 5 | 13 | 13 | 13 | 13 | 15 |
| FTA 5309 Bus Discretionary | YOE $M | 132 | 1 | 2 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| FTA 5307 Formula Funds | YOE $M | 612 | 1 | 5 | 32 | 33 | 34 | 29 | 26 | 19 | 20 | 16 | 18 | 23 | 14 | 12 | 31 | 26 | 22 | 29 | 36 | 49 | 28 | 39 | 28 | 44 |
| Transfer to State Vanpool program | YOE $M | (37) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) | (2) |
| **Total Federal Assistance for Ongoing Capex** | **YOE $M** | **826** | **2** | **7** | **38** | **39** | **40** | **35** | **32** | **26** | **26** | **23** | **24** | **29** | **21** | **20** | **39** | **35** | **31** | **38** | **45** | **66** | **45** | **56** | **45** | **63** |
| City GO Bond Proceeds | YOE $M | 252 | 1 | 2 | 11 | 35 | 28 | 9 | 8 | 6 | 7 | 6 | 6 | 7 | 5 | 5 | 10 | 9 | 8 | 10 | 11 | 16 | 11 | 14 | 11 | 16 |
| **Total Funding Sources for Ongoing Capital C** | **YOE $M** | **1,077** | **3** | **9** | **49** | **75** | **68** | **44** | **40** | **32** | **33** | **29** | **30** | **37** | **26** | **25** | **49** | **44** | **38** | **48** | **56** | **82** | **56** | **70** | **57** | **78** |
| **OnGoing Capital Expenditures** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Bus Acquisition | YOE $M | 766 | 3 | 9 | 23 | 35 | 31 | 38 | 36 | 28 | 29 | 22 | 26 | 32 | 9 | 21 | 41 | 39 | 33 | 42 | 51 | 59 | 36 | 40 | 27 | 57 |
| Other Ongoing Bus Capex | YOE $M | 129 | - | - | 23 | 37 | 34 | 3 | 0 | 0 | - | 3 | - | - | 13 | - | 3 | - | - | - | - | 13 | - | - | - | - |
| Handi-Van Acquisition | YOE $M | 104 | - | - | 3 | 3 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 7 | 7 |
| Total Rail Rehab and Replacement | YOE $M | 79 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 14 | 24 | 23 | 14 |
| **Total Ongoing Capex** | **YOE $M** | **1,077** | **3** | **9** | **49** | **75** | **68** | **44** | **40** | **32** | **33** | **29** | **30** | **37** | **26** | **25** | **49** | **44** | **38** | **48** | **56** | **82** | **56** | **70** | **57** | **78** |

Note:

- Dollar amounts are presented on a cash basis
- Totals may not add up due to rounding

# Chapter 3 Operations & Maintenance Plan

This chapter describes how the City intends to meet the operating and maintenance (O&M) costs associated with the Project and the resulting transit system. It begins with a summary of the O&M cost estimate, and then presents the planned funding sources for O&M. Levels of funding from the City's General and Highway Funds are compared with historical levels of transit funding from this source.

## O&M Costs

O&M costs associated with the Project include all costs associated with labor, fuel, electricity, and other costs inherent in providing the rail and bus service that is part of the locally preferred alternative. The following section describes the methodology and estimates used in this analysis.

O&M costs for the Project include the cost to maintain and operate the fixed guideway system in addition to the existing bus system and the cost of maintaining fully developed support functions and departments for both bus and fixed guideway, such as legal, finance, marketing, public relations, human resources/administration, etc. It is assumed that one organization will be responsible for maintaining the support functions/departments for both modes so that overall operation is more efficient. It is estimated that the cost to run these support functions and departments for a fixed guideway O&M organization are generally around 30 percent of the total O&M expenses and the City could realize a savings of 15 percent if these services are consolidated under one organization[18].

Existing bus service is expected to be reconfigured and enhanced to bring riders on local buses to nearby transit stations. Alternatively, some routes are being discontinued since they duplicate the fixed guideway service. Overall, there is a net increase in the bus service and this "ramping up" will occur even before the fixed guideway service begins operations.

Bus operating and financial data were obtained from both DTS and National Transit Database (NTD). The data were collected from detailed budget statements and operating reports from a recent, stable, and representative year from the system. More information about the O&M costing methodology can be found in the *Draft Operating and Maintenance Cost Estimating Methodology Report* from January 5, 2006.

### *O&M Costing Methodology*

The O&M costs for the Project were developed based on historical operating costs for an existing transit property having similar characteristics and operating in a similar environment to the Project. Historic costs were determined for each service characteristic. These costs were calibrated and validated against past performance of the representative system. The costs were then adjusted, based upon regional cost of living indices, to reflect O'ahu's higher costs for the fixed guideway service levels to meet their respective travel demand forecasts.

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[18] Source: Honolulu High-Capacity Transit Corridor Project Alternatives Analysis Operations and Maintenance Cost Results Report – November 15, 2006

A cost allocation model was used to estimate O&M costs for each bus system component. Cost allocation models assign each O&M cost item to one of several variables. The costs assigned to each variable were summed and divided by the annual total for the variable. The aggregate unit costs were applied to data taken from the transit service plan and forecast model output for each alternative.

The same inflation rates described in the "Capital Costs" chapter are used in calculating O&M costs. Additionally, the model was validated by entering service characteristic data for DTS' past two fiscal years to determine if the model estimates for staffing levels and costs are close to the actual data of those years.

### Unit Costs

TheBus, Handi-Van and Rail operating costs were based on operating plans prepared for each alternative using the methodology described above. This financial analysis assumes that level of service for both TheBus and Rail grows proportionally every year through FY2030.

Detailed bus budgetary and operating data were obtained from Oahu Transit Services for FY 2004-2005, and the associated unit costs were developed for that year. These FY 2004-2005 costs were escalated one year by 4.32 percent[19] to standardize bus costs in 2006 dollars.

#### *Service Levels*

The operating driving variables are: unlinked passenger trips, bus routes/rail lines, vehicles operated in maximum service, maintenance facilities, vehicle revenue miles, vehicle revenue hours, directional route miles, and passenger stations. The financial driving variables are: bus capacity-miles, rail capacity-miles, salary adjustment, fringe rate (for bargaining and non-bargaining employees, salaried and hourly), and alternate year.

***Cost estimates for the fixed guideway and the rest of the system are based on the levels of service in 2030.***

Table 3-1 displays these data.

[19] This is the actual inflation rate based on changes in the CPI from June 2005 to June 2006. Source: http://inflationdata.com/inflration/inflation_rate/inflationcalculator.asp

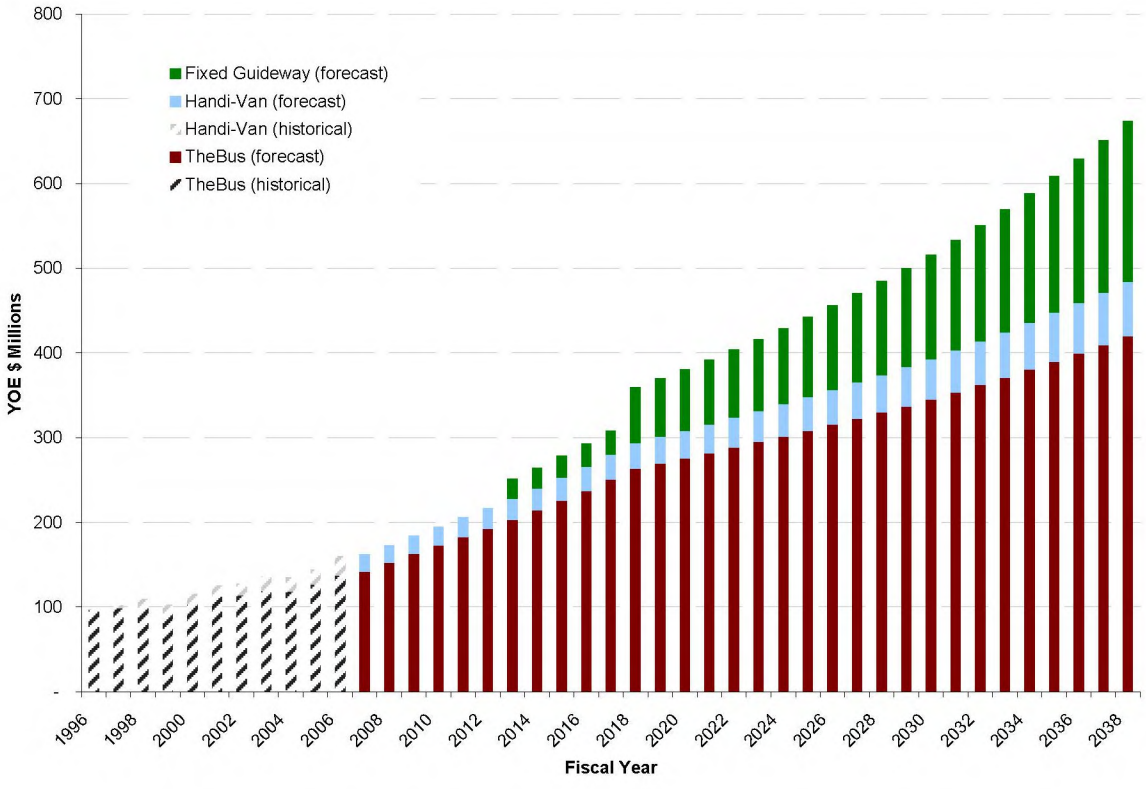
***Table 3-1. System 2030 Service Levels by Mode***

| | | |
|---|---|---|
| **TheBus** | | |
| | Annual Revenue Vehicle Miles | 20,304,619 |
| | Peak Revenue Vehicles | 469 |
| | Annual Vehicle Revenue Hours | 1,565,692 |
| | Annual Unlinked Passenger Trips | 107,708,832 |
| | Maintenance Facilities | 2 |
| | Service Centers | 1 |
| | | |
| **Fixed Guideway** | | |
| | Annual Train Revenue Hours | 109,105 |
| | Annual Vehicle Revenue Miles | 5,538,470 |
| | Stations | 19 |
| | Route Miles | 39 |
| | | |
| **Handi-Van** | | |
| | Annual Revenue Vehicle Miles | 5,565,000 |

### *O&M Cost Results*

Figure 3-1, shown below, graphically displays the historical and forecasted total O&M costs for the system. The graphic shows total O&M costs increasing annually by about 5 percent on average between 1996 and 2018. Once the fixed guideway service begins, the O&M costs increase by 16.5 percent in FY 2019 and then an average of 3 percent each year thereafter.

***Figure 3-1. System wide O&M Costs ($ YOE millions)***




A uniform CPI-based inflation rate was applied to the total O&M costs. The extent to which different escalation factors should be used for individual O&M categories will be explored in future analysis.

# Revenues for O&M Costs

The following section describes the operating revenues and non-operating revenues that the City intends to use to fund the O&M costs for the Project and the transit system as a whole. Revenues are projected annually through the year 2030. Operating revenues include passenger fares while, non-operating revenues are expected to come from the City's General and Highway Funds and from Section 5307 formula funds (for preventative maintenance).

### *Passenger Fares*

Table 3-2 presents the current fare structure for TheBus. As shown, there are a variety of fare discounts, including monthly/annual passes and student and elderly discounts. Free transfers are allowed between routes. In 2007, TheBus carried 56.47 trips at an average fare per trip of $0.77. Based on the City's operating budget, fares are expected to remain constant through 2008.

***Table 3-2. "TheBus" Current Fare Structure***

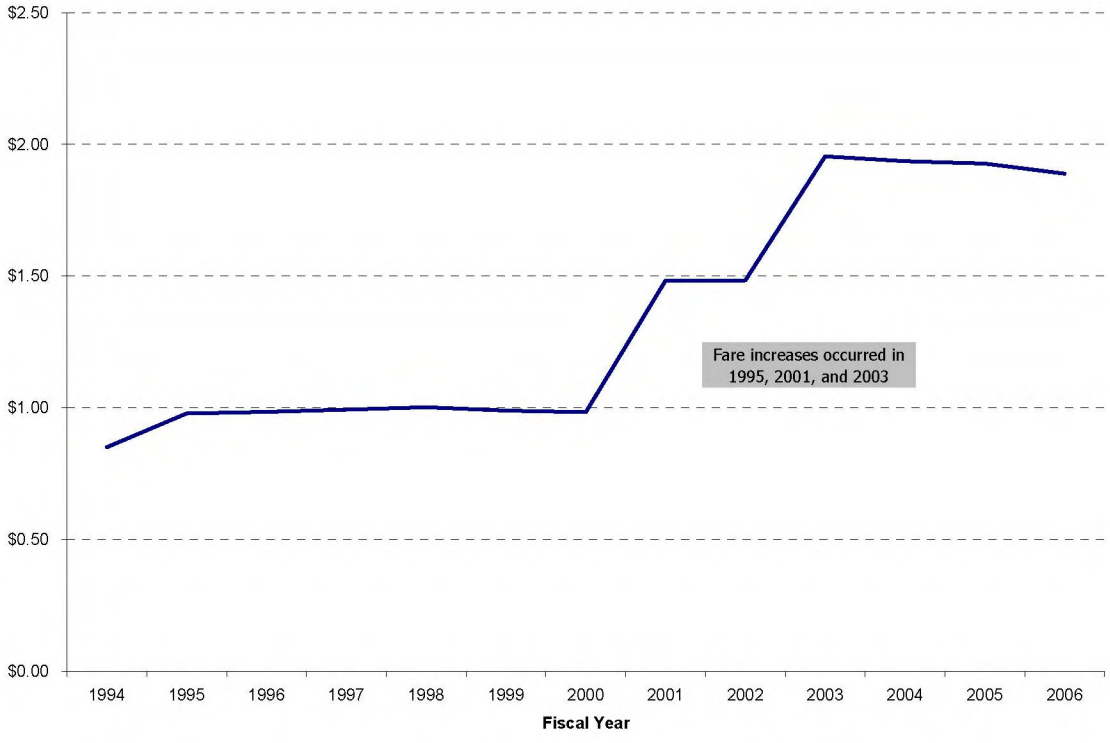
| Fare Type | Fare |
|---|---|
| Adult cash fare | $2 |
| Youth cash fare | $1 |
| Senior cash fare | $1 |
| Disabled cash fare | $1 |
| Adult monthly pass | $40 |
| Youth monthly pass | $20 |
| Senior monthly pass | $5 |
| Disabled monthly pass | $5 |
| Adult annual pass | $440 |
| Youth annual pass | $220 |
| Senior annual pass | $30 |
| Disabled annual pass | $30 |
| Senior/Disabled ID Card | $10 |

Source: 2008 City and County of Honolulu Operating Budget

Ridership estimates used in the financial analysis were developed from the travel demand model. Approximately 273,000 linked trips per day are forecasted in 2030, with approximately 363,000 daily boardings on TheBus and approximately 90,000 daily boardings on the rail system. Once the fixed guideway is operational, transfers between TheBus and the fixed guideway system would also be free and seamless. Both TheBus and the fixed guideway system would operate under a unified fare structure. This yields projected farebox revenues of $140 million in FY 2030.

In 2001 the City Council passed a resolution requiring that the City maintain a farebox recovery ratio between 27 and 33 percent. See Appendix D for this Honolulu City Council Resolution, which was adopted in February of 2000. Fares were increased in 1995, 2001, and 2003. Fares were increased in 2001 and 2003 to meet the City's recovery ratio guidelines and address a new labor agreement that ended a month-long transit strike. Figure 3-2 details the historical trend of the adult single cash fare in real terms.

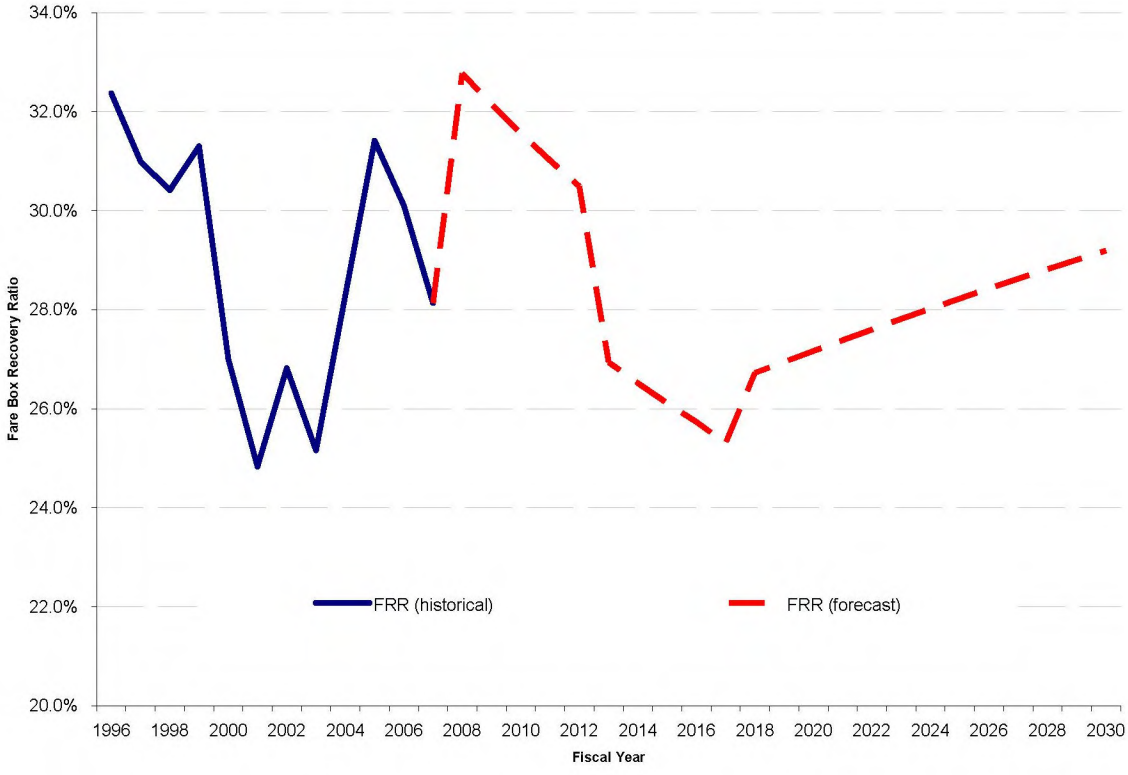
***Figure 3-2. System-wide Adult Single Cash Fare Levels (Constant 1994 Dollars)***




Source: The State of Hawaii Data Book 2005, http://www.Hawaii.gov/dbedt

Figure 3-3 presents the historical and expected farebox recovery ratio (FRR) through 2030 for combined bus and rail modes. The City council resolution mentioned above does apply in most years, but needs to be balanced with an average fare that is assumed to follow the CPI inflation. In 2030, the FRR reaches about 30%.

***Figure 3-3. Farebox Recovery Ratio***




Source: National Transit Database (historical data)

To maintain consistency with travel demand analysis, the actual 2007 average fare of $0.77 per linked trip was assumed to grow with inflation throughout the forecast period, as shown in Figure 3-4,. In actuality, fares are more likely to be increased in steps consistent with historical data and FTA guidance. Due to the similarity in fare structure this financial analysis assumes that the same average fare per linked trip will apply to both fixed guideway and bus trips.

***Figure 3-4. Average Fare (Nominal) with Inflation***

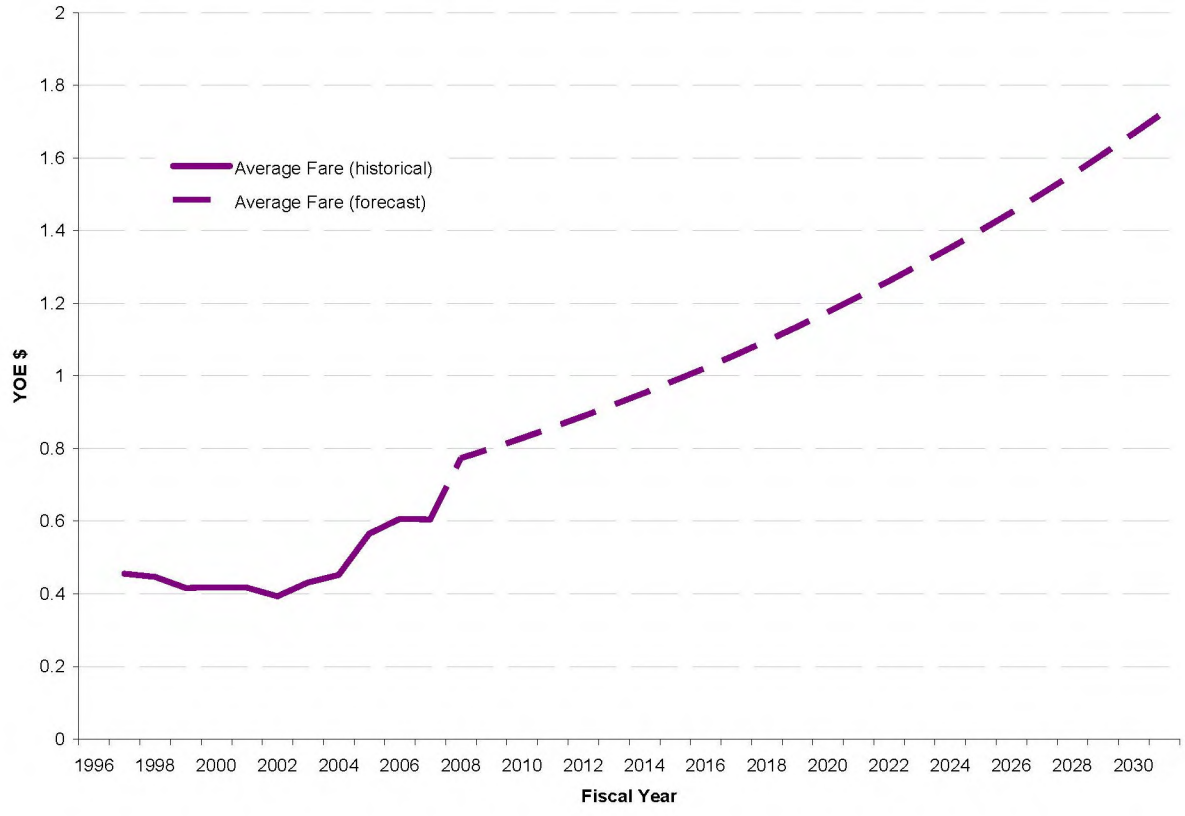
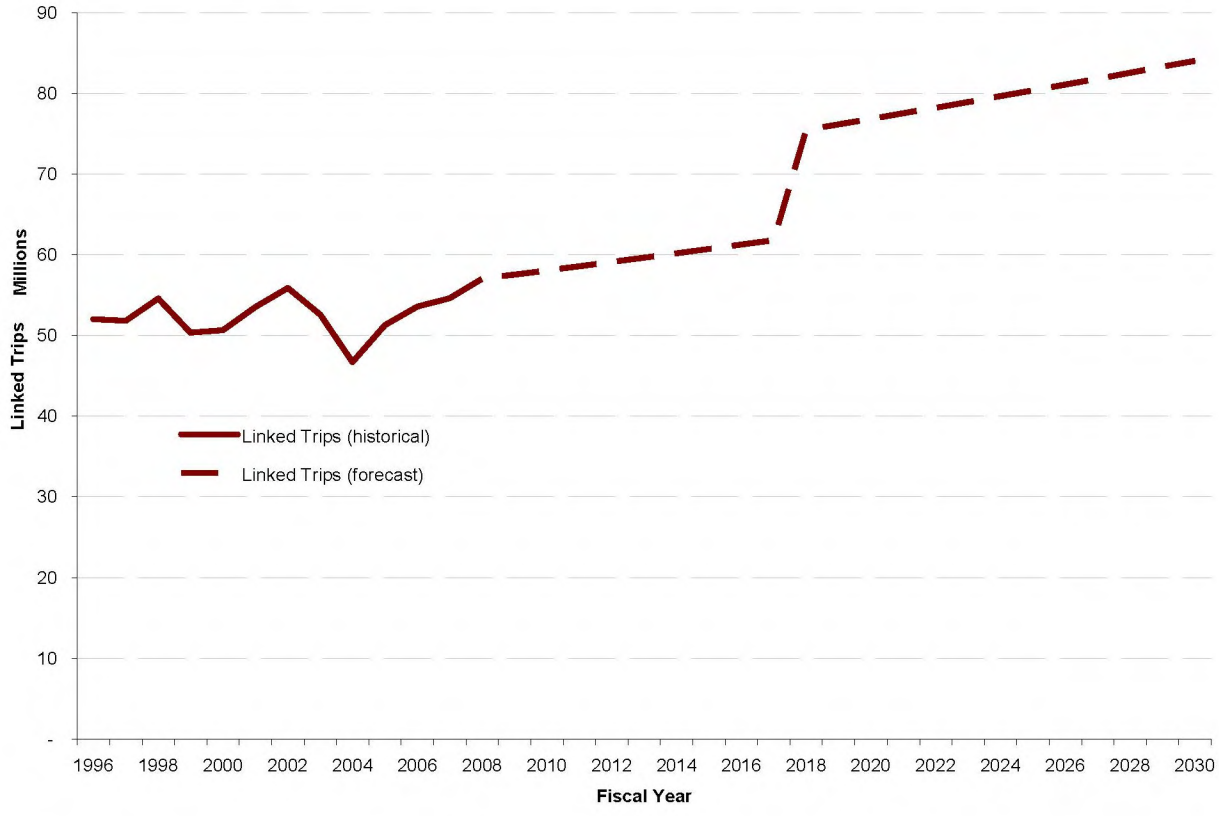



Figure 3-5 illustrates the City's historical and forecasted linked trips. This figure shows an increase in linked trips of 22 percent in 2019 when the fixed guideway becomes operational. Due to the similar fare structure, transfer between the two modes is expected to be free and seamless.

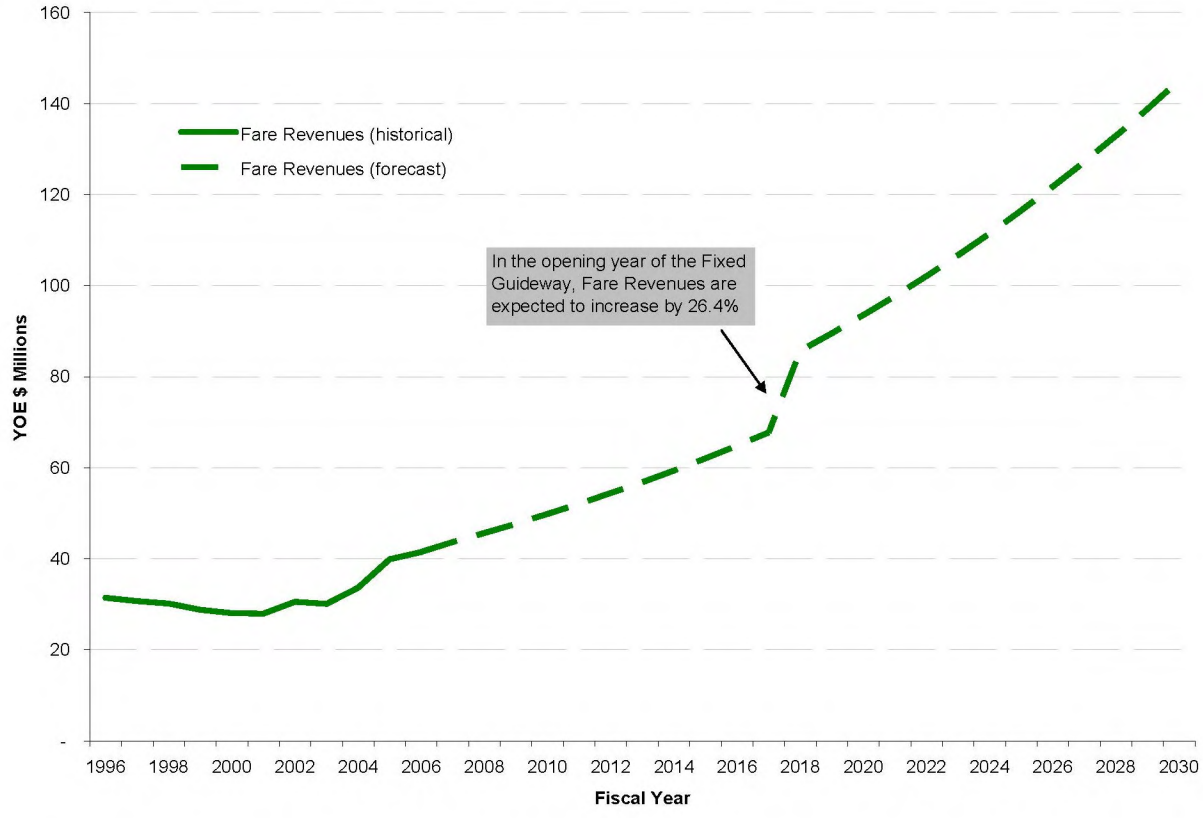
***Figure 3-5. Linked Trips***




Source: National Transit Database (Historical Data)

Figure 3-6 shows total farebox revenues based on the forecasted year of expenditure dollars. Farebox revenues are expected to increase by 25 percent in 2019 because of a significant increase in ridership once the fixed guideway service begins operations.

***Figure 3-6. System-Wide Farebox Revenues (YOE $millions)***




Source: DTS Operating Budgets

## *Non-Operating Revenues*

### Federal Funds

The City currently receives federal funds through FTA's Section 5307 Urbanized Area Formula Program. As mentioned in the system-wide capital plan chapter of this Financial Plan, the majority of Section 5307 funds are used for capital purposes; however, when these funds are not needed for capital assistance, they can also be used for preventative maintenance (a portion of O&M costs), which the federal transportation act considers eligible under this program.

Once the Project is operational, Honolulu should receive additional Section 5307 funds based on a larger amount of fixed guideway vehicle and revenue miles. This Financial Plan assumes that Honolulu will distribute Section 5307 funds first to reimburse all capital expenditures, and then allocate any remainder to cover preventative maintenance costs up to the 20 percent described above. Increased Section 5307 funding attributable to the Project does not become available until 2021 because of the two-year lag between the start of service and the reporting of that service increase in the National Transit Database. Below shows when the Section 5307 funds would be available for preventative maintenance. Over the long term, the City is expected to receive a cumulative amount of approximately $1.0 Billion (YOE dollars) through FY2030 from this funding program, $650 million of which is assumed to be used for capital needs and the remainder ($350 million) going to preventative maintenance.

### City Contribution

The City's contribution to transit operating and maintenance is funded using local revenues from the General Fund and the Highway Fund.

The General Fund is comprised of revenues from the following taxes:

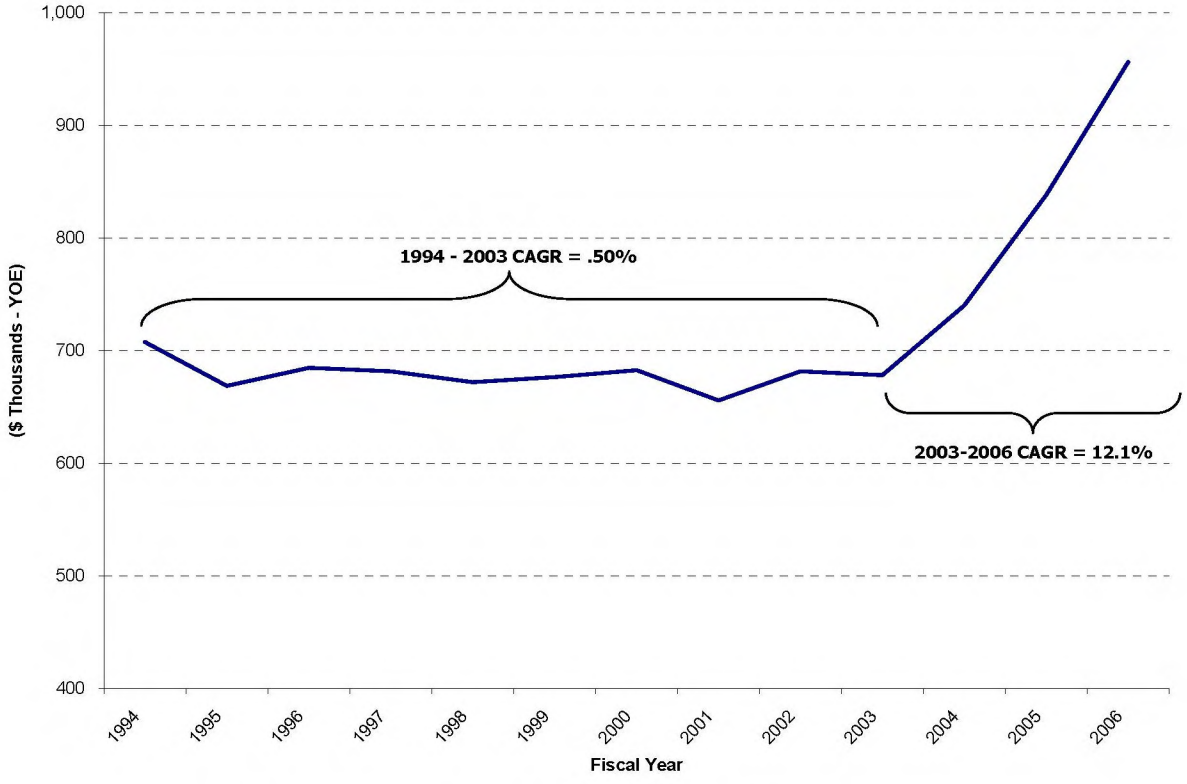
- Real Property Tax – a tax on real property based on an assessed value. Rates vary depending on property class.
- Transient Accommodations Tax – a 7.25 percent tax on a dwelling that is occupied for less than 180 consecutive days. The City and County of Honolulu receives a portion of these revenues.
- Public Service Company Tax – the City and County of Honolulu receives 1.885 percent of all public service companies' gross income.

The Highway Fund is comprised of revenues from the following taxes:

- Fuel Tax – a 16.5 cent per gallon tax on all fuel sold or used within the City's jurisdiction.
- Vehicle Weight Tax – a tax on the net weight of all passenger and non-commercial vehicles (3 cents per pound) and motor vehicles and non-passenger-carrying vehicles (3.5 cents per pound).
- Public Utility Franchise Tax – a 2.5 percent tax on all electric power and gas companies' gross sales receipts.

During the 1994 to 2006 period, revenues from these sources totaled $9.3 billion, of which $1.0 billion (11 percent) went to transit. As shown in Figure 3-7, revenues from these two funds were relatively constant in nominal (YOE) terms between 1994 and 2003. This is demonstrated by a 0.5 percent CAGR between 1994 and 2003. Since 2003, however, revenues have increased dramatically (a 12.1 percent CAGR) due to large increases in real estate values and property tax revenues on Oahu. These increases were due, in part, to an increased amount of second-home investment by the retiring "baby-boomer" generation.

***Figure 3-7. Total Highway and General Fund Actual Revenues (YOE $millions)***



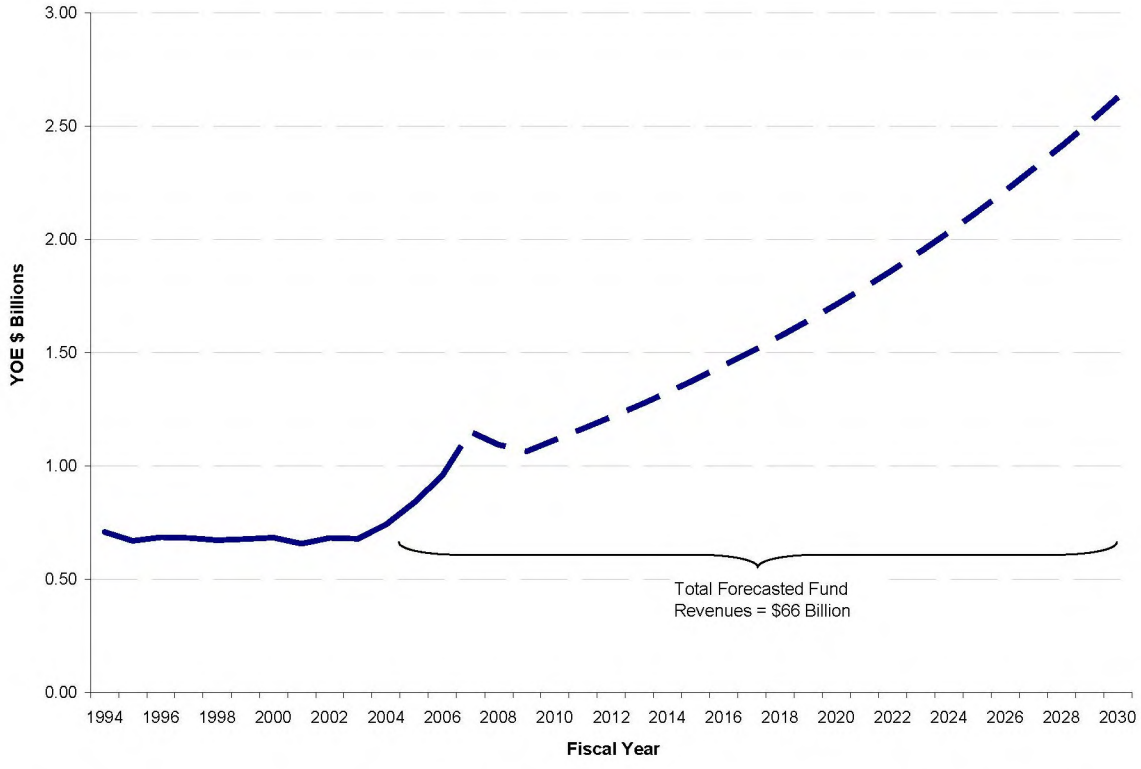

Source: 1996 – 2006 Comprehensive Annual Financial Reports (Historical Data)

These two city funds were forecasted to predict the amount of funding that might be available for transit operations. The 2007 and 2008 revenues are based on the City's forecast, and the 2009-2030 revenues are based on an analysis that incorporates inflation and real growth. The real growth rate is assumed to be 1.54 percent each year, which is the historical compound annual growth rate between 1994 and 2007 of the two city funds. The inflation rates are based on the DBEDT's inflation forecast between 2008 and 2011, and then this analysis assumed the 2012 to 2030 inflation rate to be constant at 2.8 percent. Table 2-3 details the forecasted inflation trend.

Additionally, property taxes are estimated to account for 84 percent of the General Fund's revenues in FY 2008 and, as shown in Chapter 1, property values have increased rapidly in the last five years.

Based on these assumptions, the total amount of General and Highway Funds are forecasted to total almost $66 billion between 2007 and 2030 (see Figure 3-8).

***Figure 3-8. Actual and Forecasted General Fund and Highway Fund Revenues (1994 – 2030)***

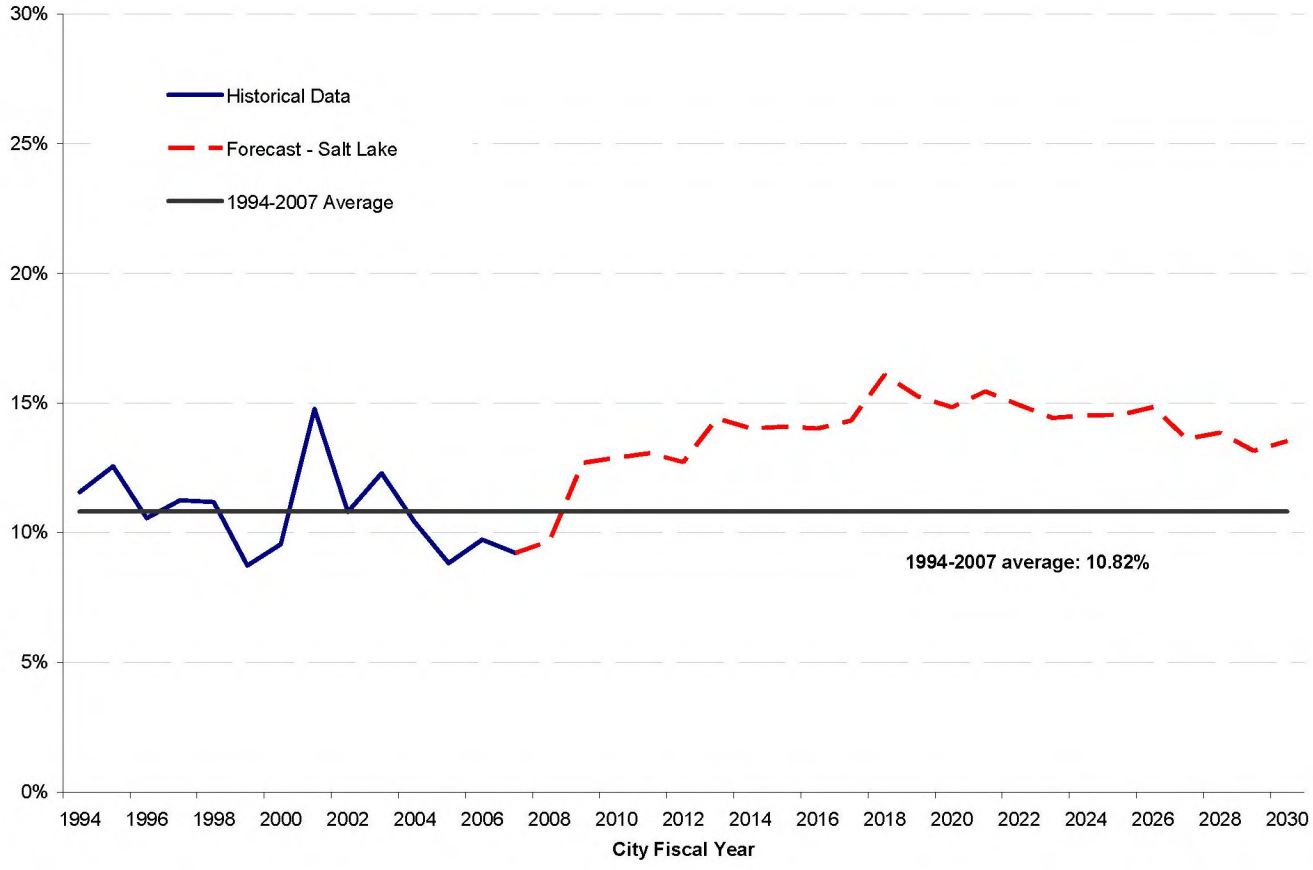



Between 1994 and 2006, transit received, on average, 11 percent of these funds' revenues. To meet the O&M funding requirements for the Project and planned bus system, the City contribution is assumed to increase to anywhere between 11.3 and 16.6 percent (see Figure 3-9), averaging about 13.8 percent between 2007 and 2030.. While higher than historical average, such an amount is not unprecedented. In 2001, the City spent about 15 percent of its General and Highway Fund revenues to pay for transit.

The City receives about $375,000 annually in transit related advertising revenues, but this analysis conservatively did not assume operating revenues from advertising or parking. In the event more such revenues are made available, the City's required operating subsidy would be proportionally lower.

After 2027, it is expected that the City's Section 5309 Fixed Guideway Modernization apportionment will increase due to a seven-year lag after fixed guideway service initiation. The availability of 5309 funds for capital assistance starting in 2027 enables more of the 5307 funds to be applied to the preventative maintenance portion of O&M cost, thereby decreasing the share of General Fund and Highway Fund revenues required for transit operating subsidy.

***Figure 3-9. Transit Portion of the City's Highway and General Funds Projected Revenues***




# Agency-Wide Operating Plan

Given the assumptions chosen in this analysis, the federal and local revenues are assumed to be enough to operate and maintain the Project while maintaining the existing bus and paratransit system. These assumptions assume that the City will significantly increase its portion of General and Highway Fund revenues toward transit. Between 2007 and 2030, the City is expected to contribute 69 percent of the total operating costs while fare revenues comprise 29 percent.

***Figure 3-10. Operating Costs and Revenues***

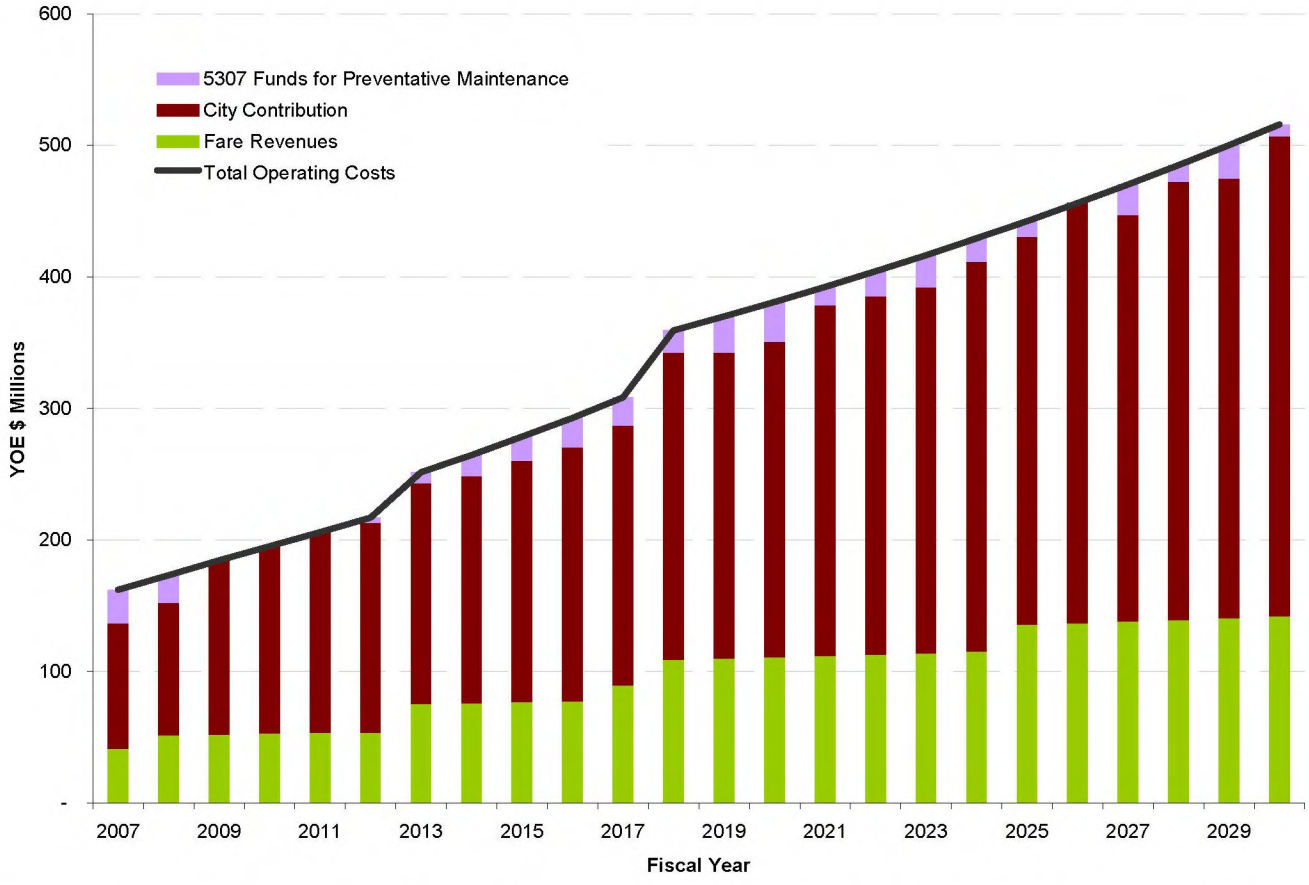



Table 3-3 and Table 3-4 summarize the Operating Plan for the overall system and key the level of service variables used to derive it..

## *Table 3-3. Fares, O&M Plan Summary (YOE $millions)*

| City Fiscal Year | UNIT | 2007-2030 TOTAL | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **OPERATING PLAN** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Operating Revenues** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fare Revenues (Bus and Rail) | YOE $M | 2,023 | 42 | 44 | 46 | 48 | 50 | 53 | 55 | 58 | 60 | 63 | 66 | 69 | 88 | 92 | 96 | 101 | 105 | 110 | 115 | 121 | 126 | 132 | 139 | 145 |
| Fare Revenues (Handi-Van) | YOE $M | 53 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| **Total System Operating Revenue** | **YOE $M** | **2,076** | **43** | **45** | **47** | **50** | **52** | **54** | **57** | **59** | **62** | **65** | **68** | **71** | **90** | **94** | **98** | **103** | **108** | **113** | **118** | **123** | **129** | **135** | **142** | **148** |
| **Federal Operating Assistsance** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FTA 5307 Formula Funds (used for preventative | YOE $M | 406 | 26 | 20 | - | - | - | 6 | 10 | 18 | 20 | 24 | 23 | 19 | 28 | 31 | 16 | 21 | 27 | 20 | 15 | 3 | 25 | 15 | 27 | 12 |
| **Total Revenues for Operations** | **YOE $M** | **2,482** | **69** | **65** | **47** | **50** | **52** | **60** | **67** | **77** | **82** | **89** | **91** | **90** | **118** | **125** | **115** | **124** | **134** | **133** | **133** | **126** | **155** | **150** | **169** | **160** |
| **Local Operating Assistance** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| City's Operating Subsidy | YOE $M | 5,664 | 93 | 107 | 137 | 145 | 154 | 156 | 184 | 187 | 196 | 204 | 217 | 261 | 252 | 256 | 278 | 280 | 282 | 296 | 310 | 330 | 316 | 335 | 332 | 356 |
| **Operations and Maintenance (O&M) Costs** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Bus O&M Cost | YOE $M | 6,069 | 142 | 152 | 163 | 173 | 183 | 193 | 203 | 214 | 226 | 237 | 251 | 263 | 269 | 276 | 282 | 288 | 295 | 302 | 308 | 315 | 322 | 330 | 337 | 345 |
| Total Handi-Van O&M Cost | YOE $M | 769 | 20 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 32 | 33 | 34 | 35 | 37 | 38 | 40 | 41 | 43 | 44 | 46 | 48 |
| Total Fixed Guideway O&M Cost | YOE $M | 1,308 | - | - | - | - | - | - | 23 | 24 | 26 | 27 | 29 | 57 | 69 | 73 | 76 | 81 | 85 | 90 | 94 | 100 | 105 | 111 | 117 | 123 |
| **Total O&M Costs** | **YOE $M** | **8,145** | **162** | **173** | **184** | **195** | **206** | **217** | **251** | **265** | **278** | **293** | **308** | **351** | **370** | **381** | **392** | **404** | **417** | **429** | **442** | **456** | **470** | **485** | **500** | **516** |
| **FARE LEVEL** | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Average Fare per Linked Trip Build | YOE $ | | 0.77 | 0.80 | 0.83 | 0.86 | 0.89 | 0.92 | 0.95 | 0.99 | 1.02 | 1.06 | 1.10 | 1.14 | 1.18 | 1.22 | 1.26 | 1.31 | 1.35 | 1.40 | 1.45 | 1.50 | 1.55 | 1.61 | 1.67 | 1.73 |
| **Farebox Recovery Ratio** | | | **29.5%** | **28.7%** | **28.1%** | **27.7%** | **27.5%** | **27.3%** | **24.3%** | **24.1%** | **24.0%** | **23.8%** | **23.7%** | **21.6%** | **25.9%** | **26.3%** | **26.8%** | **27.3%** | **27.7%** | **28.2%** | **28.6%** | **29.1%** | **29.6%** | **30.1%** | **30.5%** | **31.0%** |

Note: Totals may not add up due to rounding

## *Table 3-4. Operating Variables*

| City Fiscal Year | UNIT | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LEVEL OF SERVICE** | | | | | | | | | | | | | | | | | | | | | | | | | |
| Annual Linked Trip | trips | 54,011,495 | 54,605,400 | 55,205,836 | 55,812,874 | 56,426,587 | 57,047,048 | 57,674,332 | 58,308,513 | 58,949,668 | 59,597,873 | 60,253,205 | 60,915,744 | 74,512,602 | 75,331,936 | 76,160,278 | 76,997,729 | 77,844,389 | 78,700,358 | 79,565,740 | 80,440,637 | 81,325,154 | 82,219,398 | 83,123,474 | 84,037,492 |
| TheBus | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bus Annual RVH | hours | 1,251,096 | 1,290,573 | 1,330,049 | 1,369,526 | 1,409,003 | 1,448,480 | 1,487,956 | 1,527,433 | 1,566,910 | 1,606,387 | 1,645,863 | 1,685,340 | 1,675,369 | 1,665,399 | 1,655,428 | 1,645,457 | 1,635,487 | 1,625,516 | 1,615,545 | 1,605,575 | 1,595,604 | 1,585,633 | 1,575,663 | 1,565,692 |
| Bus Annual UPT | trips | 71,749,376 | 74,783,945 | 77,818,515 | 80,853,084 | 83,887,654 | 86,922,223 | 89,956,793 | 92,991,362 | 96,025,932 | 99,060,501 | 102,095,071 | 105,129,640 | 105,344,573 | 105,559,505 | 105,774,438 | 105,989,371 | 106,204,303 | 106,419,236 | 106,634,169 | 106,849,101 | 107,064,034 | 107,278,967 | 107,493,899 | 107,708,832 |
| Bus Annual RVM | miles | 17,429,135 | 17,874,661 | 18,320,187 | 18,765,713 | 19,211,239 | 19,656,765 | 20,102,290 | 20,547,816 | 20,993,342 | 21,438,868 | 21,884,394 | 22,329,920 | 22,161,145 | 21,992,370 | 21,823,595 | 21,654,820 | 21,486,045 | 21,317,270 | 21,148,494 | 20,979,719 | 20,810,944 | 20,642,169 | 20,473,394 | 20,304,619 |
| The Handi-Van | | | | | | | | | | | | | | | | | | | | | | | | | |
| Handi-Van Annual RVM | miles | 4,368,000 | 4,414,000 | 4,461,000 | 4,508,000 | 4,556,000 | 4,604,000 | 4,653,000 | 4,702,000 | 4,752,000 | 4,802,000 | 4,853,000 | 4,904,000 | 4,956,000 | 5,009,000 | 5,062,000 | 5,115,000 | 5,169,000 | 5,224,000 | 5,279,000 | 5,335,000 | 5,392,000 | 5,449,000 | 5,506,000 | 5,565,000 |
| Total Bus & Handi-Van RVM | miles | 21,797,135 | 22,288,661 | 22,781,187 | 23,273,713 | 23,767,239 | 24,260,765 | 24,755,290 | 25,249,816 | 25,745,342 | 26,240,868 | 26,737,394 | 27,233,920 | 27,117,145 | 27,001,370 | 26,885,595 | 26,769,820 | 26,655,045 | 26,541,270 | 26,427,494 | 26,314,719 | 26,202,944 | 26,091,169 | 25,979,394 | 25,869,619 |
| Fixed Guideway | | | | | | | | | | | | | | | | | | | | | | | | | |
| Annual Revenue Vehicle Miles | miles | - | - | - | - | - | - | 1,702,724 | 1,753,806 | 1,806,420 | 1,860,612 | 1,916,431 | 3,884,571 | 4,001,109 | 4,121,142 | 4,244,776 | 4,372,119 | 4,503,283 | 4,638,381 | 4,777,533 | 4,920,859 | 5,068,485 | 5,220,539 | 5,377,155 | 5,538,470 |

Note: Totals may not add up due to rounding

# Chapter 4 Cash Flow Risks and Uncertainties

The foregoing analysis presented the Financial Plan with baseline assumptions for revenues and costs. This chapter presents the corresponding operating and capital cash flows for the entire system and discusses the risks and uncertainties around many of the key assumptions. Several alternative funding and financing scenarios are tested to show the impact on the overall Financial Plan.

### *Measures of Financial Plan Feasibility*

Three measures (for both capital and operating) are the key success factors associated with this Financial Plan. For the capital plan, the amount of additional capital revenues required over and above GET revenues and New Starts is one of these key indicators. For the operating plan, the key measures are both the farebox recovery ratio and the City's operating subsidy as a percentage of the expected general and highway fund revenues.

The baseline assumptions led to the conclusion that no additional funds would be necessary to fund the Project's capital costs in the base case. While no upper bound has officially been set, any capital funding requirement from the City beyond the dedicated GET surcharge would have an impact on various aspects of the City's finances, including the following:

- Reducing the amount of funds available for other City projects, thus potentially delaying or even canceling projects seen as less essential
- Pushing the city to raise property taxes, the main source of the City's general revenues, to meet the additional needs
- Impacting the City's capacity to issue debt while maintaining its current credit rating, implying a higher cost of borrowing

For the operating plan, two key measures will be tracked as certain assumptions are tested: the system-wide farebox recovery ratio and the City's subsidy to fund mass transit operations as a percentage of General and Highway Fund revenues. The City is required to maintain a farebox recovery ratio between 27 and 33 percent, so it is essential that the ratio between the farebox revenues and operating and maintenance costs stay within a reasonable range. Additionally, the City will be required to significantly increase the percentage of its General and Highway Fund revenues. This chapter will address the risk associated with the funds not increasing at the forecasted rate, in addition to the City not being willing to contribute the level of funding required due to competing demands.

Table 4-1 summarizes the key measures that will be tracked when running sensitivity scenarios for the Financial Plan. These measures will be referred to throughout this chapter as different sensitivity analyses are considered.

***Table 4-1. Financial Plan's Key Indicators***

| | Capital | Operations | |
|---|---|---|---|
| **Measure** | City revenues (excluding GET surcharge) required | Farebox recovery ratio | Operating subsidy as percentage of the General and Highway Fund revenues |
| **Baseline** | $0 | Around 27 to 33%[22] | 2007-2030: Avg: 13.8%<br>2007-2030: Max 16.6% |

# Project Risks and Uncertainties

Project risks can be divided into the following categories:

- Changes in project scope
- Changes in unit prices
- Changes in project schedule
- Changes in the assumed procurement approach
- Changes in financial assumptions (e.g., availability of capital and operating revenue, interest rates, system-wide O&M costs)

Some of these categories are project-specific and can be directly or indirectly influenced by the project sponsor or other parties involved in the implementation process; others may be influenced by external local and macroeconomic factors. These risk categories are discussed in more detail below.

## *Scope Uncertainty*

Most projects, especially large infrastructure projects such as this one, have uncertainties associated with the definition of the project. At this stage of project planning, there can be numerous decisions and project refinements that will be made later in project development. For this Project, while certain fixed guideway transit technologies and station locations have been assumed, these assumptions will be revisited and confirmed or modified during Preliminary Engineering. Scope changes may also result from the following:

- Physical barriers, such as unexpected utility locations or ground water
- Environmental impacts and mitigation measures
- Community involvement
- Changes in political leadership
- Budget constraints that lead to scope reductions
- Choice of technology and grade separation

[22] This is based on the City's requirement. See Appendix D for more information.

Uncertainties still exist regarding the level of automation of the Project as well as the power generation source (overhead vs. third-rail powered). The former could increase capital costs but reduce the O&M portion. However, implementation of a third-rail technology is expected to have a limited impact on capital cost, as the current Project already assumes a mostly grade-separated, elevated structure.

### *Unit-Price Uncertainty*

A driving factor in both the capital and operating cost models are the unit prices, which are used to calculate annual costs for each variable. For example, a unit price is associated with each labor position's salary, bus purchase, and foot of steel. A small change in the unit price can have a significant effect on the overall project costs. Factors influencing unit cost include the following:

- Exchange rates, especially when raw materials or equipment need to be shipped from abroad, as may be the case in Honolulu
- Construction cost inflation due to supply-demand imbalance for raw materials, energy, equipment, or labor

Those risk factors can be somewhat mitigated by the procurement strategy and by the fact that CPI-based inflation would impact costs and revenues in similar but inverse fashions, thereby limiting the impact on the overall Financial Plan. Only the incremental inflation specific to construction could add pressure to the Financial Plan. The availability of, and local demand for, construction labor plays an important role in unit price uncertainty, especially as the number of public works projects increases. In Honolulu, specifically, this is relevant for the many sewer capital improvements. A shortage in labor force could lead to higher wages and a greater exposure to inflationary risk due to delay in construction.

Other issues that can affect the accuracy of unit cost include the bid climate during the construction period (i.e., the level of competition among contractors), and fluctuations in basic material prices. As a project evolves, these assumptions and their associated costs could change. Additionally, changes in design standards during later phases of project development can also lead to changes in project cost. Examples of changes in design standards would be replacing high floor vehicles with low floor vehicles, using a more sophisticated signal system, or changing from a barrier-free fare collection system to the use of fare gates.

Note that the unit prices will be analyzed in much more significant detail during later phases of this Project.

### *Schedule Uncertainty*

Scheduling delays, the availability of skilled labor, and unforeseen construction challenges can all lead to cost increases that may challenge the Financial Plan for a project. Schedule changes might result from project changes, local decision-making processes, equipment malfunctions, and construction delays. As a project becomes more complex, tasks become larger and they often have more dependencies. Every task's duration is dependent on factors that can be out of a project manager's control.

Additionally, any change in the level of funding sources can drastically affect a project schedule. The level of FTA funds is subject to annual appropriations and to program reauthorizations approximately every six years. The analysis assumes that future FTA funding levels will have the same growth trends as in the recent past. Future reauthorization legislation may result in different growth levels. Additionally, all projects following FTA's New Starts process compete for a limited amount of New Starts funds. The total amount of New Starts funds pledged to a project is not finalized until just prior

to entering into a Full Funding Grant Agreement (FFGA), and annual funding apportionments depend on congressional appropriations each year.

This Project is expected to "break ground," or begin construction before the FFGA is completed, and the initial stages of the Project are likely to be locally funded. If, for some reason, the FFGA does not get completed as scheduled, this has the potential to delay the project.

Other examples of schedule hindrances are related to election cycles, testing and commissioning, and project reviews.

The above-mentioned factors may also affect the scheduled opening year and its potential phasing. If the Project were to open in phases, the schedule of operating revenues would be impacted accordingly. Phasing is expected to be further refined in future stages of the Project.

### *Procurement*

The choice between different procurement mechanisms may have an impact on the phasing of the project as well as the timing of capital outlays. Some efficiencies may be gained from using an innovative procurement approach such as design build or design build operate maintain. Depending on the general approach that the City decides to pursue, this procurement method could change at various milestones throughout the Project.

### *Financial Uncertainty*

Budget issues can arise in the event of cash flow shortages, financing fluctuations, and/or economic downturns. The following section describes the uncertainty around the main drivers behind the capital and operating Financial Plan. For the capital plan, the main drivers are GET surcharge revenues, New Starts funding, and interest rate fluctuations. In the operating plan, the main drivers are ridership and the level of the City's General and Highway Fund revenues.

#### Capital Revenues Uncertainty

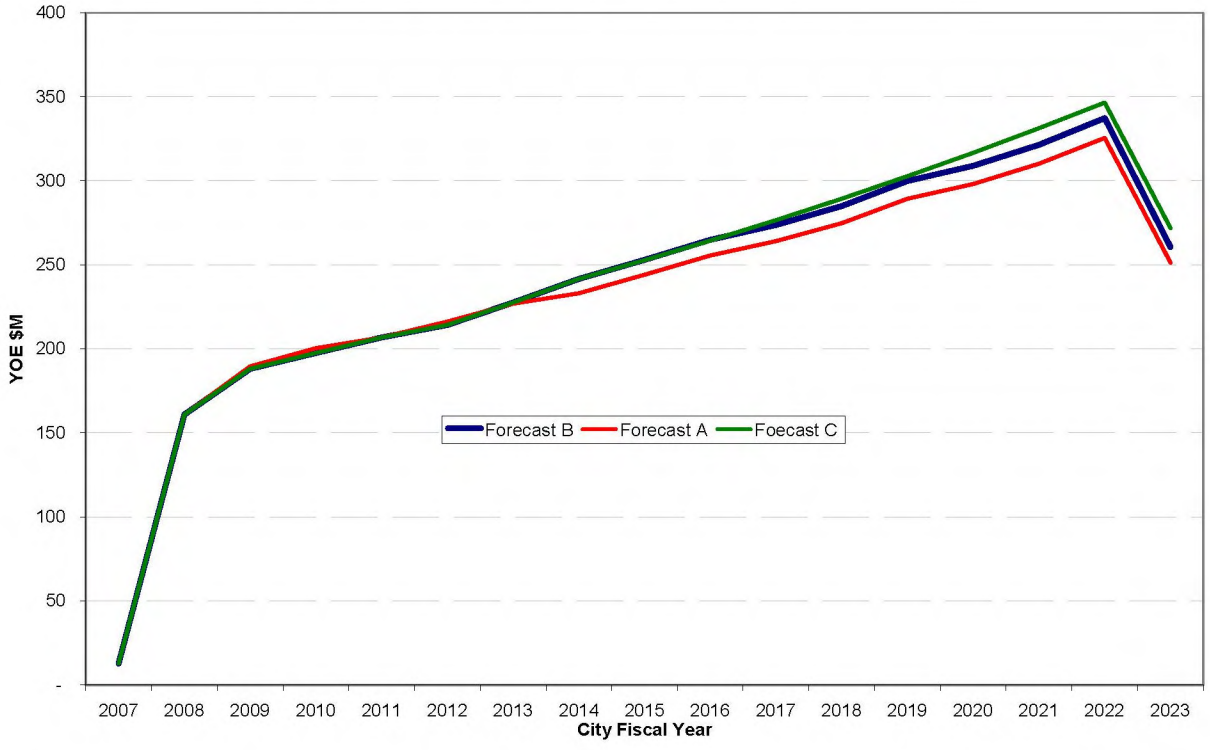
*GET Surcharge Revenues*

The Financial Plan assumes three different scenarios for GET revenues, which are more extensively discussed in Chapter 2 of this report. Nonetheless, there are many potential results, depending on factors outside of the City's direct control, such as a downturn in the local economy leading to a drop in GET revenues. Unlike most sales taxes, GET has the benefit of being levied on a broad range of business activities. This diversification is usually seen positively by the investment community and is usually associated with greater stability. However, Hawaii's economy is heavily based on tourism and military activities, which makes it more prone to an economic downturn in the event of a decline in the U.S. and/or East Asian economic cycles.

In addition to the risk of economic slowdown or downturn, other risks should be considered. Inflation plays an important role in forecasting GET revenues, as this source of funds is very much dependent on local prices. Additionally, this Financial Plan assumes a reduction of 25 percent in annual GET revenues as a result of business behavior and the State-dedicated portion for administrative and collection purposes. Both of these factors may change as businesses familiarize themselves with the new surcharge and the number of erroneous tax filings is reduced.

Figure 4-1, shown below, presents the three revenue scenarios on a cash basis described in the Chapter 2 and presented in Table 2-7. There are smaller amounts of GET revenues in FY 2008 and FY 2023 because those are not full years of tax collection. Forecasts A, B, and C are $3.9 billion (YOE $), $4.0 billion (YOE $) and $4.1 billion (YOE $), respectively.

***Figure 4-1. Net GET Surcharge Revenues, Cash Basis (YOE $millions)***




The Financial Plan assumes that Forecast B is the baseline scenario. Forecast C assumes a higher level of GET revenues, so it is not considered in detail in this sensitivity analysis since it would only decrease other funding requirements. Forecast A, on the other hand, projects a lower level of GET revenues, so it is considered in T below. As shown in this figure, there are a few key differences from the baseline in the financing requirements and the impact on the cash flows needed from the City.

1. Forecast A implies an earlier use of debt financing (in FY 2011 instead of FY 2012 for Forecast B). This, in turn, increases the amount of debt service required to be repaid through FY 2023.

2. The lower annual revenues from GET surcharge in Forecast A results in a higher overall use of debt. The total use of bond proceeds increases from $2.2 billion in Forecast B to $2.3 billion percent in Forecast A. As shown in T, this results in additional capital funds required to pay for the additional debt service staring in FY 2018 through 2023. The total additional revenues are expected to amount to approximately $80 million (YOE $).

***Table 4-2. Cash Flow and Balance for the Project (YOE $millions) (Sensitivity Analysis: Net GET Scenario A)***

| City Fiscal Year | UNIT | 2007-2030 TOTAL | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Funding Sources** | | | | | | | | | | | | | | | | | | | |
| Net GET Revenues | YOE $M | 3,959 | 13 | 161 | 190 | 200 | 207 | 216 | 227 | 233 | 244 | 256 | 264 | 275 | 289 | 298 | 310 | 325 | 251 |
| Bond Proceeds | YOE $M | 2,310 | - | - | - | - | 92 | 734 | 507 | 259 | 220 | 278 | 111 | 29 | 81 | - | - | - | - |
| Commercial Paper Proceeds | YOE $M | 66 | - | - | - | - | - | - | 38 | 28 | - | - | - | - | - | - | - | - | - |
| FTA 5309 New Starts Revenues | YOE $M | 1,200 | - | - | - | - | - | - | 200 | 200 | 200 | 200 | 200 | 200 | - | - | - | - | - |
| Interest Earnings | YOE $M | 25 | - | 0 | 5 | 11 | 9 | - | - | - | - | - | - | - | - | - | - | - | 0 |
| Additional Capital Revenues | YOE $M | 80 | - | - | - | - | - | - | - | - | - | - | - | - | 4 | 17 | 5 | - | 54 |
| **Total Project Sources of Funds** | **YOE $M** | **7,641** | **13** | **161** | **195** | **211** | **307** | **950** | **972** | **721** | **664** | **733** | **575** | **503** | **375** | **315** | **315** | **325** | **305** |
| **Project Capital Uses of Funds** | | | | | | | | | | | | | | | | | | | |
| Project Capital Cost | YOE $M | 4,772 | - | 3 | 10 | 273 | 601 | 933 | 873 | 563 | 472 | 441 | 307 | 216 | 81 | - | - | - | - |
| Commercial Paper Refinancing Amount | YOE $M | 68 | - | - | - | - | - | - | - | - | - | 68 | - | - | - | - | - | - | - |
| **Total Capital Uses of Funds** | **YOE $M** | **4,840** | **-** | **3** | **10** | **273** | **601** | **933** | **873** | **563** | **472** | **509** | **307** | **216** | **81** | **-** | **-** | **-** | **-** |
| **Debt Service** | | | | | | | | | | | | | | | | | | | |
| Total Principal Payment on Long Term Debt | YOE $M | 2,310 | - | - | - | - | - | 6 | 61 | 106 | 135 | 164 | 206 | 231 | 245 | 274 | 283 | 294 | 304 |
| Total Interest Payment on Long Term Debt | YOE $M | 468 | - | - | - | - | - | 4 | 32 | 49 | 55 | 57 | 60 | 56 | 49 | 42 | 32 | 22 | 11 |
| Other Finance Charges | YOE $M | 23 | - | - | - | - | 1 | 7 | 5 | 3 | 2 | 3 | 1 | 0 | 1 | - | - | - | - |
| **Total Project Uses of Funds** | **YOE $M** | **7,641** | **-** | **3** | **10** | **273** | **602** | **950** | **972** | **721** | **664** | **733** | **575** | **503** | **375** | **315** | **315** | **315** | **315** |
| **Project Cash Balance** | | | | | | | | | | | | | | | | | | | |
| **Cash Balance Beginning** | | | **-** | **13** | **171** | **356** | **295** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **10** |
| Additions (deletions) to cash | | | **13** | **159** | **185** | **(62)** | **(295)** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **10** | **(10)** |
| **Cash Balance Ending** | | | **13** | **171** | **356** | **295** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **10** | **-** |

A summary of this sensitivity analysis is detailed in Table 4-3

***Table 4-3. Sensitivity Analysis on GET Surcharge***

| | Capital | Operations | |
|---|---|---|---|
| **Measure** | Additional capital revenues (excluding GET surcharge and New Starts) required (YOE $millions) | Farebox recovery ratio | Operating subsidy as percentage of projected General and Highway Fund revenues |
| **Baseline (GET Forecast B)** | $0 | Around 27 to 33% | 2007-2030: Avg: 13.8%<br>2007-2030: Max 16.6% |
| **GET Forecast A** | $80 | No change from baseline | No change from baseline |

The uncertainty around the level of GET surcharge revenues could also be to the upside if the State legislation were to be amended. An extension of the surcharge after December 31, 2022, would allow for an increase in revenues. Additionally, another similar increase could fund a greater portion of the Locally Preferred Alternative, if needed. Additionally, there is a potential for the State to reduce its 10 percent takedown, thereby increasing the revenues available to fund the Project.

It is important to note that this Financial Plan does not assume any revenues from private sources. This could also be seen as a mitigation strategy in the event of lower-than-expected GET revenues. This source of revenues will be further explored during the Preliminary Engineering phase.

Finally, the City as a general purpose local government may have the opportunity to raise other local tax revenues to be pledged toward the project.

*New Starts Uncertainty*

Revenues from the Federal New Starts program are expected to comprise 25.5 percent of the total cost of the Project (excluding finance charges). As mentioned in the Capital Plan, the $1.2 billion assumption in New Starts funding is unprecedented except for a single project in New York,[24] so it is important to understand the competitive landscape that the City will be joining. Additionally, this section addresses how the political situation will affect the dependability of this funding source as well.

To further assess the reasonableness of this assumption, an analysis of the current pipeline of projects in the New Starts process was undertaken. The output of this analysis is a projection of

[24] The East Side Access Project in New York recently signed an FFGA of $3.6 billion corresponding to 50 percent of estimated capital cost.

expected requests in New Starts money through the end of the next authorization cycle, assumed to start in 2010 and end in 2015.

Table 4-4 presents the results of this analysis, assuming a 20 percent increase in authorization level to $10.5 billion, compared to $8.7 billion for the current SAFETEA-LU cycle. Considering the current New Starts pipeline, if all projects currently in Preliminary Engineering and Final Design were funded, a little more than $1 billion would be available for additional projects. FTA funding for Honolulu is expected to go beyond the next authorization cycle for which FTA has the ability to make a contingent commitment of funds. Under this set of assumptions, it is possible to see how the baseline $1.2 billion could be accommodated within the New Starts program.

In addition to the uncertainty in the availability of New Starts money from competition nationwide, the authorization level is also dependant on political outcomes that are outside the control of the City and County of Honolulu. The Federal General Fund, which has recently become the source of funding for the New Starts program, also adds pressure to the amount available for public transportation capital investment.

***Table 4-4. Expected New Starts Requests in the Next Authorization as of June 2006***

| Current FTA Stage | Number of Projects | Estimated New Starts Funding Request FY 2010-2015 (YOE $millions) |
|---|---|---|
| Existing FFGA | 21 | $2,000 |
| Pending FFGA | 2 | $270 |
| Proposed FFGA | 2 | $1,520 |
| Other New Starts Projects in Final Design and Preliminary Engineering | 13 | $5,680 |
| **TOTAL** | **38** | **$9,470** |
| **Assumed Authorization Amount for New Starts (2010-2015)** | | **$10,500** |
| **Balance New Starts Fund Available** | | **$1,030** |

*Source: PB Consult Inc.*

Considering the above analysis, several New Start scenarios were run for each GET revenue scenario. The result is shown in Table 4-5, which presents the amount of additional City contribution, other than GET surcharge, that would be required depending on the GET revenue scenario and the amount of New Starts.

***Table 4-5. Sensitivity of the Financial Plan to New Starts and Net GET Revenues Assumptions (Amounts in YOE $millions)***

| New Starts Scenario | Additional Capital Revenues |
|---|---|
| **GET Scenario A** | |
| $800 | $526 |
| $900 | $413 |
| $1,000 | $301 |
| $1,100 | $191 |
| $1,200 | $80 |
| **GET Scenario B** | |
| $800 | $427 |
| BASE CASE $900 | $314 |
| $1,000 | $201 |
| $1,100 | $91 |
| $1,200 | $0 |
| **GET Scenario C** | |
| $800 | $379 |
| $900 | $267 |
| $1,000 | $153 |
| $1,100 | $42 |
| $1,200 | $0 |

Additionally, Federal funds used for ongoing capital needs are also subject to annual appropriations by Congress. These funding sources are primarily supplied through the Federal Highway Trust Fund (HTF). The HTF is mostly funded by an 18.4 cents per gallon federal tax on gasoline and gasohol and 24.4 cents per gallon federal tax on diesel and kerosene fuel, which has not been increased since 1993. According to the Congressional Budget Office, the HTF has the potential to face a deficit as early as 2010 or 2011, and even 2008 in a more pessimistic scenario.[25]

*Interest Rate Uncertainty*

As in any capital project requiring the issuance of debt, the project is subject to uncertainty around fluctuations in interest rates. These fluctuations are influenced by the credit rating of the issuer of the bonds (the City) and by external factors that are not directly under the control of the City, such as market risks.

1. Credit Rating

As mentioned in the Capital Plan, this Financial Plan assumes that the credit quality of the City and County of Honolulu will remain at its current Standard & Poor's AA rating. Adverse economic conditions or shifts in the City's debt policies could impact its credit rating and increase the cost of borrowing accordingly. Most importantly, the credit quality of the City is likely to be influenced by the size of the City's capital program and its ability to remain below the current affordability guidelines set by the City Council.

[25] CBO testimony: Status of the highway trust fund : 2007, March 27, 2007, page 10

2. Market Uncertainty

Like any interest rates, the assumed yield curves on the municipal securities used in this Financial Plan are subject to global market conditions. The recent turmoil in the credit markets is a case in point and has prompted the Federal Reserve to react with a series of interest rate cuts that influence the market in general and the finance cost for the Project in particular. This uncertainty is further enhanced by the fact that, given baseline assumptions, the first debt issuance is not expected to occur before 2011 or 2012 depending on the revenue scenario.

The current average life of the debt issued for the project is nine years. The corresponding interest rate is 3.71 percent per year. Another scenario was run with an assumption of 4.71 percent. Table 4-6 shows that the City would be expected to add $231 million (YOE dollars) to meet the funding shortfall resulting from an increase in interest rates of 1 percent. Table 4-6 details the key measures for several sensitivity analyses where the only change in the baseline assumptions are the interest rates.

***Table 4-6. Sensitivity Analysis on Interest Rate***

| | Capital | Operations | |
|---|---|---|---|
| **Measure** | City revenues (excluding GET surcharge) required (YOE $millions) | Farebox recovery ratio | Measure |
| **Baseline (Interest Rate: 4.87%)** | $0 | Required 27 to 33%[26] | 2007-2030: Avg: 15%<br>2007-2030: Max 18% |
| **Interest Rate – Baseline + 0.5%** | 154 | No change from baseline | No change from baseline |
| **Interest Rate – Baseline +1%** | 231 | No change from baseline | No change from baseline |

**Operating Plan Uncertainty**

The two major sources of uncertainty in the operating plan revenues relate to the ridership forecast and the corresponding fare revenues, as well as the level of City General and Highway Fund revenues available for operating subsidy. The main source of uncertainty related to the operating cost estimates is that the analysis did not consider sensitivities surrounding escalation for some of the more volatile unit costs, such as fuel and transit employee benefits. These assumptions will be further refined for the formal PE application submittal. It is also important to note that, at this point, no assumption has been made on the potential involvement of the private sector such as joint development opportunities.

The fare revenue forecast is based upon the travel demand modeling done during the AA phase and reflects the methods and assumptions underlying the demand forecast. Even the best demand forecasts are inherently uncertain. Transit projects elsewhere in the U.S. have experienced actual ridership that deviated from the forecast by 20 percent or more. If this were to happen in Honolulu, there would be a commensurate impact on fare revenues.

Currently, the City has an established fare policy to maintain the farebox recovery ratio between 27 and 33 percent (see Operating Plan for more details). To maintain that level, this Financial Plan assumes fare increases that are in line with this policy and past experience, although there is no certainty that these increases will occur as scheduled. A variety of sensitivity analyses will be tested in the next iterations to determine the impact of fare increases on ridership and the overall operating plan.

The historical share of General and Highway Fund revenues used for transit operations has been approximately 11 percent over the last 10 years. The City has demonstrated its commitment to fund

[26] This is based on the City's requirement. See Appendix D for more information.

transit operations. Although the operating plan shows an increase in the operating needs after the introduction of a fixed guideway system, it is not unreasonable to assume the City's continued commitment. As previously indicated, the City is a general purpose local government with the ability to raise General and Highway Fund revenues for transit operating subsidies.

As shown in Table 4-7, the base case projects General and Highway Fund revenues to increase at the historical real growth rate of 0.50 percent. However, historical data also show that the annual growth rate in General and Highway Fund revenues has been lower than inflation in some years. Table 4-7 also presents the resulting average and maximum share of revenues used toward transit operations in the case where those revenues would simply grow at the rate of inflation (0 percent real growth). The average share is expected to rise by 1 percent, from 15 to 16 percent, and the maximum would reach 20 percent, from 18 percent.

***Table 4-7. Sensitivity Analysis on General and Highway Fund Revenues***

| | **Capital** | **Operations** | |
|---|---|---|---|
| **Measure** | City revenues (excluding GET surcharge) required (YOE $millions) | Farebox recovery ratio | Operating subsidy as percentage of the General and Highway Fund revenues |
| **Baseline (0.50% Funds' Real Growth)** | $0 | Required 27 to 33%[27] | 2007-2030: Avg: 15%<br>2007-2030: Max 18% |
| **0% Real Growth** | No change from baseline | No change from baseline | 2007-2030: Avg: 16%<br>2007-2030: Max 20% |

## Conclusion

Chapters 2 and 3 of this Financial Plan describe how the City and County of Honolulu expects to fund the capital and operating costs associated with a new fixed guideway system in addition to maintaining the existing system. This Plan is based on a set of baseline assumptions that are reasonable expectations that may or may not bear out over time. This chapter addressed the level of risks and uncertainties around the key assumptions in the analysis. Sensitivity analyses were conducted around the level of New Starts funding, GET surcharge revenues, growth rate in General and Highway Fund revenues, and interest rate. A summary of these sensitivity analyses is presented in Table 4-8.

[27] This is based on the City's requirement. See Appendix D for more information.

***Table 4-8. Sensitivity Analyses Summarized***

| | Capital | Operations | |
|---|---|---|---|
| **Measure** | City revenues (excluding GET surcharge) required (YOE $millions) | Farebox recovery ratio | Operating subsidy as percentage of the General and Highway Fund revenues |
| **Baseline** | $0 | Required 27 to 33%[28] | 2007-2030: Avg: 13.8%<br>2007-2030: Max 16.6% |
| **GET Scenario A** | $80 | No change from baseline | No change from baseline |
| **Varying New Starts Levels** | See Table 4-5. | No change from baseline | No change from baseline |
| **Interest Rate – Baseline + 0.5%** | 154 | No change from baseline | No change from baseline |
| **Interest Rate – Baseline +1%** | 231 | No change from baseline | No change from baseline |
| **0% Real Growth in General and Highway Fund Revenues** | No change from baseline | No change from baseline | 2007-2030: Avg: 16%<br>2007-2030: Max 20% |

As shown in this chapter, any changes to the level of federal funding, GET surcharge revenues, fare revenues, or General and Highway Fund revenues can have a negative impact on the Project. In the event of funding shortfalls, many mitigation strategies can be considered in later financial analysis. Examples include the following:

- Private involvement, such as joint development, which would generate revenues from the sale or lease of development rights associated with real property owned or operated by the City, including fixed guideway stations
- Various procurement options leading to potential cost efficiencies
- Innovative finance options, such as Tax Increment Financing (TIF), which reallocates a portion of future property tax growth toward the Project based on increases in assessed values for parcels well served by transit, compared to increases in the assessed value of other properties
- Increased City support through the General Fund and the Highway Fund
- Delayed schedule/project phasing that could reduce the cost of borrowing by allowing greater use of pay-go financing
- Decreased levels of service

[28] This is based on the City's requirement. See Chapter 3 for more information.

- Changes to the project scope
- Extending the duration of the GET surcharge beyond 2022
- More aggressive use of advertising and other non-fare operating revenues that are both currently excluded from the analysis.

Because a level of uncertainty exists around both the cost and the revenues, it is possible that higher-than-expected costs could be mitigated with equally higher-than-expected revenues.

# Chapter 5: Alternatives

Under the Airport and Salt Lake and Airport alignments, feeder bus connections would be provided from the rail stations to locations along Salt Lake Boulevard. The total guideway length for the Airport Alternative would be approximately 20 miles and would include 21 stations. The Fixed Guideway Alternative would be approximately 42 miles and would include 22 stations.

## Capital Plan

Capital costs for all build alternatives are presented in Table 5-1 below. Capital cost estimates excluding finance charges, range from $3.9 billion for the Salt Lake alternative as presented in the previous chapters to $4.8 billion for the combined Airport and Salt Lake alignment as of December 2007. The capital cost for the Airport is estimated to be approximately $400 million higher than the Salt Lake alternative.

***Table 5-1: Capital Costs by Standard Cost Categories, December 2007 $ Millions and YOE $ Millions.***

| | Salt Lake Alternative | | Airport Alternative | | Airport and Salt Lake Alternative | |
|---|---|---|---|---|---|---|
| | 2008 $M | YOE $M | 2008 $M | YOE $M | 2008 $M | YOE $M |
| 10 GUIDEWAY and TRACK ELEMENTS (route miles) | 1,285 | 1,522 | $1,349 | $1,547 | $1,694 | $1,961 |
| 20 STATIONS, STOPS, TERMINALS, INTERMODAL (number) | 264 | 328 | 308 | 359 | 337 | 396 |
| 30 SUPPORT FACILITIES: YARDS, SHOPS, ADMINISTRATION BLDGS | 125 | 137 | 125 | 138 | 125 | 138 |
| 40 SITEWORK and SPECIAL CONDITIONS | 693 | 781 | 689 | 763 | 759 | 849 |
| 50 SYSTEMS | 248 | 307 | 282 | 341 | 341 | 417 |
| 60 ROW, LAND, EXISTING IMPROVEMENTS | 142 | 159 | 155 | 174 | 163 | 183 |
| 70 VEHICLES (number) | 276 | 330 | 285 | 333 | 285 | 333 |
| 80 PROFESSIONAL SERVICES | 784 | 937 | 824 | 972 | 975 | 1,129 |
| 90 UNALLOCATED CONTINGENCY | 229 | 270 | 241 | 278 | 281 | 324 |
| **Total Cost Excluding Finance Charges** | **$4,047** | **$4,772** | **$4,258** | **$4,903** | **$4,960** | **$5,729** |
| Finance Charges | 360 | 484 | 425 | 568 | 610 | 825 |
| **Total Cost** | **$4,407** | **$5,256** | **$4,683** | **$5,472** | **$5,570** | **$6,554** |

The Capital Plan also estimates ongoing costs for replacing, rehabilitating, and maintaining capital assets in a state of good repair through FY2030 for all 3 build alternatives. Rail rehabilitation and replacement costs are expected to begin 16 years after initial construction activities are completed. These costs are estimated to range from $79 million to $120 million in YOE dollars in FY2030.

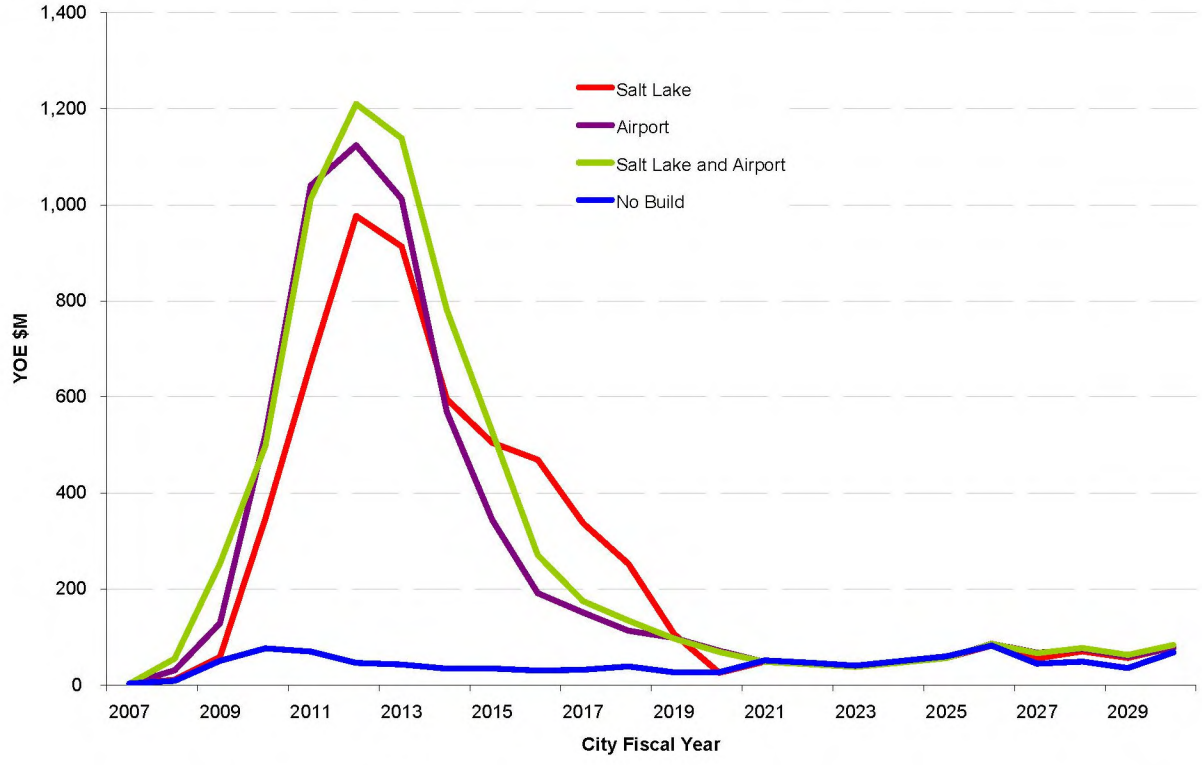
**Current bus and TheHandi-van service would also need to be restructured and expanded to support the fixed guideway system. Table 5-2 and**

Figure 5-1show the fixed guideway implementation, rehabilitation and replacement costs as well as ongoing capital costs for TheBus and TheHandi-Van

***Table 5-2: Project and Ongoing Capital Costs in YOE dollars, FY2007 – FY2030***

| Alternative | Fixed Guideway Implementation | Fixed Guideway Rehab and Replacement | TheBus and TheHandi-Van Expansion and | Total |
|---|---|---|---|---|
| No Build Alternative | $0 | $0 | $1,051 | **$1,051** |
| Salt Lake Alternative | $4,772 | $79 | $999 | **$5,849** |
| Airport Alternative | $5,177 | $109 | $1,051 | **$6,336** |
| Airport and Salt Lake Alternative | $6,029 | $120 | $1,051 | **$7,200** |

**Figure 5-1: Project and Ongoing Costs in YOE dollars, FY2007 – FY2030, YOE $millions**




Financing assumptions for the other build alternatives are expected to be the same as the selected Salt Lake Alternative. Table 5-3 and Table 5-4 below shows the project related sources and uses of funds and ongoing capital costs for all three build alternatives, respectively

### *Table 5-3: Project Sources and Uses of Funds for all Alternative, Total FY2007 – FY2030, YOE $millions*

| FIXED GUIDEWAY SOURCES AND USES OF FUNDS | Salt Lake Alternative YOE $M | Airport Alternative YOE $M | Airport and Salt Lake Alternative YOE $M |
|---|---|---|---|
| **FUNDING SOURCES** | | | |
| Net GET Revenues | $4,054 | $4,054 | $4,054 |
| Bond Proceeds | 2,244 | 3,370 | 4,626 |
| Commercial Paper Proceeds | 66 | 645 | 743 |
| FTA 5309 New Starts Revenues | 1,200 | 1,200 | 1,200 |
| Interest Earnings | 28 | 13 | 7 |
| Debt Service Payments from Other Revenue Sources | 0 | 725 | 1,834 |
| **TOTAL FUNDING SOURCES** | **$7,592** | **$10,006** | **$12,463** |
| | | | |
| **USES OF FUNDS** | | | |
| **Capital Expenses** | | | |
| First Project Capital Cost | $4,772 | $5,177 | $6,029 |
| Commercial Paper Refinancing Amount | 67 | 689 | 791 |
| **Total Capital Expenses** | **$4,839** | **$5,866** | **$6,820** |
| **Debt Service & other Finance Charges** | | | |
| Total Principal Payment on Long Term Debt | $2,244 | 3,370 | 4,626 |
| Total Interest Payment on Long Term Debt | 462 | 736 | 971 |
| Other Finance Charges | 22 | 34 | 46 |
| **Total Debt Service and Other Finance Charges** | **$2,728** | **$4,139** | **$5,643** |
| **TOTAL USES OF FUNDS** | **$7,568** | **$10,006** | **$12,463** |

### *Table 5-4: Ongoing Capital Sources and Uses of Funds for all Alternatives, Total FY2007 – FY2030, YOE $millions*

| ONGOING CAPEX SOURCES AND USES | No Build YOE $M | Salt Lake Alternative YOE $M | Airport Alternative YOE $M | Airport and Salt Lake Alternative YOE $M |
|---|---|---|---|---|
| **FUNDING SOURCES** | | | | |
| FTA 5309 Fixed Guideway Modernization | $53 | $119 | $120 | $134 |
| FTA 5309 Bus Discretionary | 132 | 132 | 132 | 132 |
| FTA 5307 Formula Funds | 640 | 612 | 669 | 667 |
| Transfer to State Vanpool program | (37) | (37) | (37) | (37) |
| City GO Bond Proceeds | 264 | 252 | 277 | 275 |
| **Total Funding Sources for Ongoing Capital Cost** | **$1,051** | **$1,077** | **$1,160** | **$1,171** |
| | | | | |
| **USES OF FUNDS** | | | | |
| Total Bus Acquisition | $818 | $766 | $818 | $818 |
| Other Ongoing Bus Capex | 129 | 129 | 129 | 129 |
| Handi-Van Acquisition | 104 | 104 | 104 | 104 |
| Total Rail Rehab and Replacement | - | 79 | 109 | 120 |
| **Total Ongoing Capex** | **$1,051** | **$1,077** | **$1,160** | **$1,171** |

# Operations and Maintenance Plan

Table 5-5 below summarizes O&M costs in throughout the forecast period in YOE dollars for each Build Alternative, by travel mode. Total O&M costs for the Salt Lake Alternative would be $108 million (YOE dollars) higher than for the No Build in FY2030. The O&M costs for the Airport and Airport & Salt Lake Alternatives would be $110 and $122 million higher in FY2030 than the No Build, respectively.

***Table 5-5: O&M Costs for all Alternatives by Travel Mode, FY2007, FY 2030, and FY2007 – FY2030, YOE $millions***

| | TheBus (YOE $M) | | | Fixed Guideway (YOE $M) | | | TheHandi-Van (YOE $M) | | | Total (YOE $M) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **ALTERNATIVE** | **2007** | **2030** | **2007-2030** | **2007** | **2030** | **2007-2030** | **2007** | **2030** | **2007-2030** | **2007** | **2030** | **2007-2030** |
| **No Build Alternative** | 142 | 360 | 6,007 | - | - | - | 20 | 48 | 769 | 162 | 408 | 6,776 |
| **Salt Lake Alternative** | 142 | 345 | 6,070 | - | 123 | 1,316 | 20 | 48 | 769 | 162 | 516 | 8,155 |
| **Airport Alternative** | 142 | 341 | 6,041 | - | 128 | 1,366 | 20 | 48 | 769 | 162 | 518 | 8,176 |
| **Airport and Salt Lake Alternative** | 142 | 339 | 5,955 | - | 142 | 1,482 | 20 | 48 | 769 | 162 | 529 | 8,205 |

Operating revenue sources for the other build alternatives are the same as for the Salt Lake Alternative. The projected transit contribution from the general fund will be different for the three alternatives due to the difference in O&M costs. The figure below illustrates this difference.

***Figure 5-2: Transit Portion of the City's Highway and General Funds for all Alternatives***

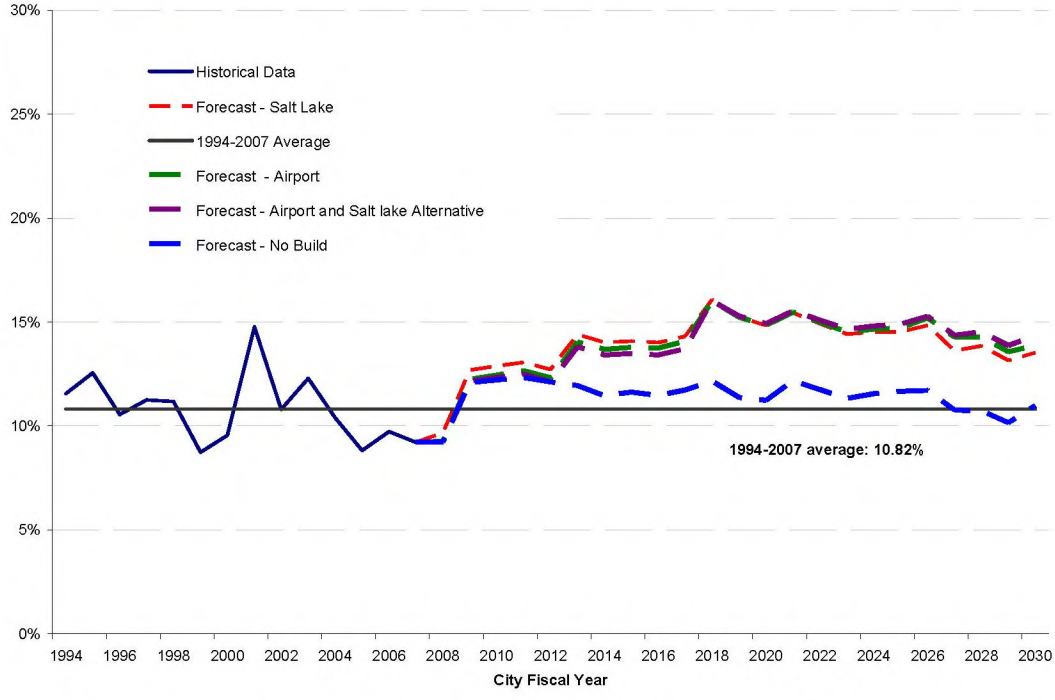



Table 5-6 shows all of the operating expenses and funding sources for all of the Build alternatives and the No Build.

### *Table 5-6: Operating Sources and Uses of Funds for all Alternatives, YOE $millions*

| OPERATING SOURCES AND USES | No Build<br>YOE $M | Salt Lake Alternative<br>YOE $M | Airport Alternative<br>YOE $M | Airport and Salt Lake Alternative<br>YOE $M |
|---|---|---|---|---|
| **FUNDING SOURCES** | | | | |
| Fare Revenues (Bus and Rail) | $1,804 | $2,073 | $2,260 | $2,254 |
| Fare Revenues (Handi-Van) | 53 | 53 | 53 | 53 |
| **Total Fare Revenue** | **$1,857** | **$2,127** | **$2,313** | **$2,307** |
| FTA 5307 Formula Funds (used for preventative maintenance) | 313 | 406 | 319 | 320 |
| City's Operating Subsidy | 4,607 | 5,622 | 5,831 | 5,846 |
| **Total Revenues for Operations** | **$6,778** | **$8,155** | **$8,462** | **$8,473** |
| | | | | |
| **USES OF FUNDS** | | | | |
| Total Bus O&M Cost | $6,009 | $6,070 | $6,327 | $6,222 |
| Handi-Van O&M Cost | 769 | 769 | 769 | 769 |
| Total Fixed Guideway O&M Cost | - | 1,316 | 1,366 | 1,482 |
| **Total O&M Costs** | **$6,778** | **$8,155** | **$8,462** | **$8,473** |

# Appendix A

## *Fixed Guideway Legislation*

Appendix A includes:

1. Bill for an Ordinance for Honolulu's Locally Preferred Alternative Selection

2. Resolution for Minimum Operable Segment

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

ORDINANCE 07-001

BILL 79 (2006), CD2, FD2
(Final #2)

# A BILL FOR AN ORDINANCE

RELATING TO TRANSIT.

BE IT ORDAINED by the People of the City and County of Honolulu:

SECTION 1. The purpose of this ordinance is to select the city's locally preferred alternative to comply with the process that will be followed in implementing Honolulu's mass transit project. The council has received the Alternatives Analysis Report for the Honolulu High-Capacity Transit Corridor Project ("AA"), dated November 1, 2006. The council believes that, in its role as policymakers for the city, a fixed guideway system is the best selection for the long-term needs and demands of our growing island population. Therefore, the council approves a fixed guideway system as the locally preferred alternative, which will allow the city administration to move forward on the locally preferred alternative.

PART I. Selection of the Locally Preferred Alternative

SECTION 2. **Selection of the locally preferred alternative.**

The locally preferred alternative for the Honolulu High-Capacity Transit Corridor Project shall be a fixed guideway system between Kapolei and the University of Hawaii at Manoa, starting at or near the intersection of Kapolei Parkway and Kalaeloa Boulevard, with an alignment as follows:

(1) Section I – Saratoga Avenue/North-South Road and Kamokila Boulevard, as determined by the city administration before or during preliminary engineering, to Farrington Highway;

(2) Section II – Farrington Highway/Kamehameha Highway;

(3) Section III – Salt Lake Boulevard and Aolele Street as determined by the city administration before or during preliminary engineering;

(4) Section IV – Dillingham Boulevard; and

(5) Section V – Nimitz Highway/Halekauwila Street/Kapiolani Boulevard to the University of Hawaii at Manoa, with the Waikiki branch.

The "sections" refer to the sections in figures 2-3 through 2-7 of the Alternatives Analysis Report.

# A BILL FOR AN ORDINANCE

SECTION 3. The city administration is authorized to proceed with preparation of an environmental impact statement for the locally preferred alternative (LPA), and with planning and preliminary engineering for that portion of the LPA (including any portion of any section of the LPA listed in section 2 above) that may be constructed within financial constraints (capital cost and any interest to finance that capital cost shall be paid entirely from general excise and use tax surcharge revenues, interest earned on the revenues, and any federal, state, or private revenues); provided that this portion shall constitute a minimum operable segment (MOS) for purposes of Federal New Starts funding eligibility; and provided further that the proposed MOS shall be subject to Council approval by resolution.

SECTION 4. Section 6-60.1, ROH, is amended to read as follows:

"**Sec. 6-60.1 Establishment of surcharge—Conditions.**

Pursuant to Section 2 of Act 247, Session Laws of Hawaii, Regular Session of 2005, codified as Section 46-16.8 of the Hawaii Revised Statutes, there is hereby established a one-half percent general excise and use tax surcharge to be used for purposes of funding the operating and capital costs of public transportation within the City and County of Honolulu as specified herein. The excise and use tax surcharge shall be levied beginning January 1, 2007. Prior to the tax surcharge monies being expended as the local match for federal funds, the following shall occur:

(1) The council has approved by [resolution] ordinance a locally preferred alternative following an Alternatives Analysis [and Draft EIS]; and

(2) The council has received from the director of transportation services an operational, financial, development and route plan for the locally preferred alternative; and

(3) There is a commitment of federal funds, whether for planning, land acquisition or construction, to further the locally preferred alternative."

PART II. Alignment, Stations, and Base Yard
of the Locally Preferred Alternative

SECTION 5. Section 4-8.3, Revised Ordinances of Honolulu 1990, is amended to read as follows:

# A BILL FOR AN ORDINANCE

"**Sec. 4-8.3 Types of public infrastructure to be shown on public infrastructure map.**

(a) Symbols for the following types of public improvement projects shall be shown on the public infrastructure maps, provided they meet the applicability criteria specified in Section 4-8.4:

(1) Corporation yard;

(2) Desalination plant;

(3) Drainageway (open channel);

(4) Energy generation facility;

(5) Fire station;

(6) Government building;

(7) Golf course (municipal);

(8) Electrical transmission line and substation (above 46kV but less than 138kV);

(9) Park;

(10) Police station;

(11) Parking facility;

(12) Water reservoir;

(13) Sewage treatment plant;

(14) Solid waste facility;

(15) [Transit corridor;] Fixed guideway system alignment, stations, and base yard of the locally preferred alternative;

(16) Major collector or arterial roadway;

(17) Sewage pump station; and

(18) Potable water well.

(b) The alignment of linear facilities, and the location of project boundaries, shall be considered approximate and conceptual."

PART III. Technology of the Locally Preferred Alternative

SECTION 6. **Reservation of right to select technology.**

The council reserves the right to select the technology of the fixed guideway system for the locally preferred alternative. If the council exercises the right, the council shall select the technology through subsequent ordinance passed on third reading by the council before the city administration issues a public notice soliciting proposals or inviting bids for work that includes design of the system.

The city administration shall give the council at least 90 days' notice before issuing the first public notice soliciting proposals or inviting bids for work that includes design of the fixed guideway system.

PART IV. Specifications of Request for Proposals
Or Invitation for Bids

SECTION 7. **Approval of specifications of requests for proposals or invitation for bids.**

The city administration shall submit to the council the specifications in each proposed request for proposals or invitation for bids for work that includes the planning, design, or construction of any portion of the locally preferred alternative before issuing the request or invitation. The city administration shall not issue the request for proposals or invitation for bids until after the specifications are approved by the council.

PART V. General

SECTION 8. Ordinance material to be repealed is bracketed; new material is underscored. When revising, compiling or printing this ordinance for inclusion in the Revised Ordinances of Honolulu, the revisor of ordinances need not include the brackets, bracketed material, or the underscoring.

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

ORDINANCE 07-001

BILL 79 (2006), CD2, FD2

# A BILL FOR AN ORDINANCE

SECTION 9. This ordinance shall take effect upon its approval.

INTRODUCED BY:

Donovan Dela Cruz

Ann Kobayashi

Romy M. Cachola

Charles Djou

Barbara Marshall

Todd Apo

DATE OF INTRODUCTION:

October 19, 2006
Honolulu, Hawaii

Councilmembers

APPROVED AS TO FORM AND LEGALITY:

Deputy Corporation Counsel

APPROVED this 6th day of JANUARY, 2007

MUFI HANNEMANN, Mayor
City and County of Honolulu



07-001

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII
CERTIFICATE

**ORDINANCE** 07-001 **BILL 79 (2006)**

Introduced: 10/19/06 By: DONOVAN DELA CRUZ Committee: TRANSPORTATION & PLANNING

Title: A BILL FOR AN ORDINANCE RELATING TO TRANSIT.

Links: BILL 79 (2006)
BILL 79 (2006), CD1
BILL 79 (2006), CD2
BILL 79 (1006), CD2, FD2 (FINAL #2)
CR-469
CR-508

| | | |
|---|---|---|
| COUNCIL | 10/25/06 | BILL PASSED FIRST READING AND REFERRED TO COMMITTEE ON TRANSPORTATION AND PLANNING. |
| | | APO Y CACHOLA Y DELA CRUZ Y DJOU Y GARCIA Y<br>KOBAYASHI Y MARSHALL Y OKINO Y TAM Y |
| TRANSPORTATION AND PLANNING | 11/02/06 | CR-469 - BILL REPORTED OUT OF COMMITTEE FOR PASSAGE ON SECOND READING AND SCHEDULING OF A PUBLIC HEARING AS AMENDED IN CD1 FORM. |
| | | COMMUNITY OUTREACH MEETINGS TO REVIEW THE ALTERNATIVE ANALYSIS (AA) REPORT ON THE HONOLULU HIGH CAPACITY TRANSIT PROJECT (VARIOUS LOCATIONS): 11/13/06; 11/16/06; 11/17/06; 11/20/06; 11/21/06; 11/22/06; 11/27/06. |
| PUBLISH | 11/27/06 | PUBLIC HEARING NOTICE PUBLISHED IN THE HONOLULU STAR-BULLETIN. |
| COUNCIL/PUBLIC HEARING | 12/7/06 | BILL PASSED SECOND READING, AS AMENDED (CD1), CR-469 ADOPTED, PUBLIC HEARING CLOSED AND REFERRED TO TRANSPORTATION AND PLANNING COMMITTEE. (BILL 79, CD1)<br>(NOTE: MOTION TO AMEND FOLLOWING BILLS FAILED: (1) BILL 79, PROPOSED CD1, FD1 (VERSION A); AND (2) BILL 79, PROPOSED CD1, FD1 (VERSION B). |
| | | APO Y CACHOLA Y DELA CRUZ Y DJOU N GARCIA Y<br>KOBAYASHI Y MARSHALL N OKINO Y TAM Y |
| TASK FORCE | 12/8/06 | BRIEFING BY THE TRANSIT ADVISORY TASK FORCE ON THE COUNCIL'S 12/7/06 PUBLIC HEARING RE BILL 79, CD1. |
| PUBLISH | 12/13/06 | SECOND READING NOTICE PUBLISHED IN THE HONOLULU STAR-BULLETIN. |
| TRANSPORTATION AND PLANNING | 12/14/06 | CR-508 – BILL REPORTED OUT OF COMMITTEE FOR PASSAGE ON THIRD READING AS AMENDED IN CD2 FORM. |
| COUNCIL | 12/22/06 | CR-508 ADOPTED. BILL 79, CD2, FURTHER AMENDED ON THE COUNCIL FLOOR TO CD2, FD1, HOWEVER, BILL 79, CD2, FD1, FURTHER AMENDED TO BILL 79, CD2, FD2 (FINAL #2), AND SUBSEQUENTLY PASSED THIRD READING, AS AMENDED (BILL 79, CD2, FD2 (FINAL #2)<br>(NOTE: BILL 79 (2006), PROPOSED CD2, FD1 (NORTH-SOUTH BRANCH, NON-LPA COMMITMENT) WAS ALSO CONSIDERED AND SUBSEQUENTLY WITHDRAWN) |
| | | APO Y CACHOLA Y DELA CRUZ Y DJOU N GARCIA Y<br>KOBAYASHI Y MARSHALL N OKINO Y TAM Y |

I hereby certify that the above is a true record of action by the Council of the City and County of Honolulu on this BILL.

DENISE C. DE COSTA, CITY CLERK

DONOVAN M. DELA CRUZ, CHAIR AND PRESIDING OFFICER

07-001

AR00056764

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

No. **07-039, FD1** (C)

# RESOLUTION

APPROVING THE MINIMUM OPERABLE SEGMENT (MOS) FOR THE HONOLULU HIGH-CAPACITY TRANSIT CORRIDOR PROJECT.

WHEREAS, the council selected a fixed guideway system as the Locally Preferred Alternative ("LPA") for the Honolulu High-Capacity Transit Corridor Project through the approval of Ordinance 07-001; and

WHEREAS, the council determined that the selected LPA best meets the long-term needs and demands of Oahu; and

WHEREAS, the LPA is defined in Ordinance 07-001 as a fixed guideway system between Kapolei and the University of Hawaii at Manoa, starting at or near the intersection of Kapolei Parkway and Kalaeloa Boulevard, with an alignment as follows:

(1) Section I — Saratoga Avenue/North-South Road and Kamokila Boulevard, as determined by the city administration before or during preliminary engineering, to Farrington Highway;

(2) Section II — Farrington Highway/Kamehameha Highway;

(3) Section III — Salt Lake Boulevard and Aolele Street as determined by the city administration before or during preliminary engineering;

(4) Section IV — Dillingham Boulevard; and

(5) Section V — Nimitz Highway/Halekauwila Street/Kapiolani Boulevard to the University of Hawaii at Manoa, with the Waikiki branch;

and

WHEREAS, the council recognizes that a fixed guideway system covering the entire LPA alignment is the long-term goal and that a shorter system should be built first within the revenues available from the General Excise and Use Tax ("GET") surcharge, and funds reasonably expected from the federal government and other state and private sources; and

WHEREAS, such a shorter system is known as a minimum operable segment or MOS by the federal guidelines; now, therefore,

# CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

No. **07-039, FD1** (C)

# RESOLUTION

BE IT RESOLVED by the Council of the City and County of Honolulu that it approves as the best minimum operable segment for the Honolulu High-Capacity Transit Corridor Project the portion of the Locally Preferred Alternative between the University of Hawaii-West Oahu, near the future Kroc Center, and Ala Moana Center, via Farrington Highway and Kamehameha Highway, to Salt Lake Boulevard, to Dillingham Boulevard, to Nimitz Highway, to Halekauwila Street, and to Ala Moana Center; and

BE IT FURTHER RESOLVED that necessary planning and preliminary engineering for the MOS shall commence; and

BE IT FURTHER RESOLVED that the council urges the city administration to keep the council informed of the progress of the project on a periodic basis; and

BE IT FINALLY RESOLVED that copies of this Resolution be transmitted to the mayor, the managing director, and the director of the department of transportation services.

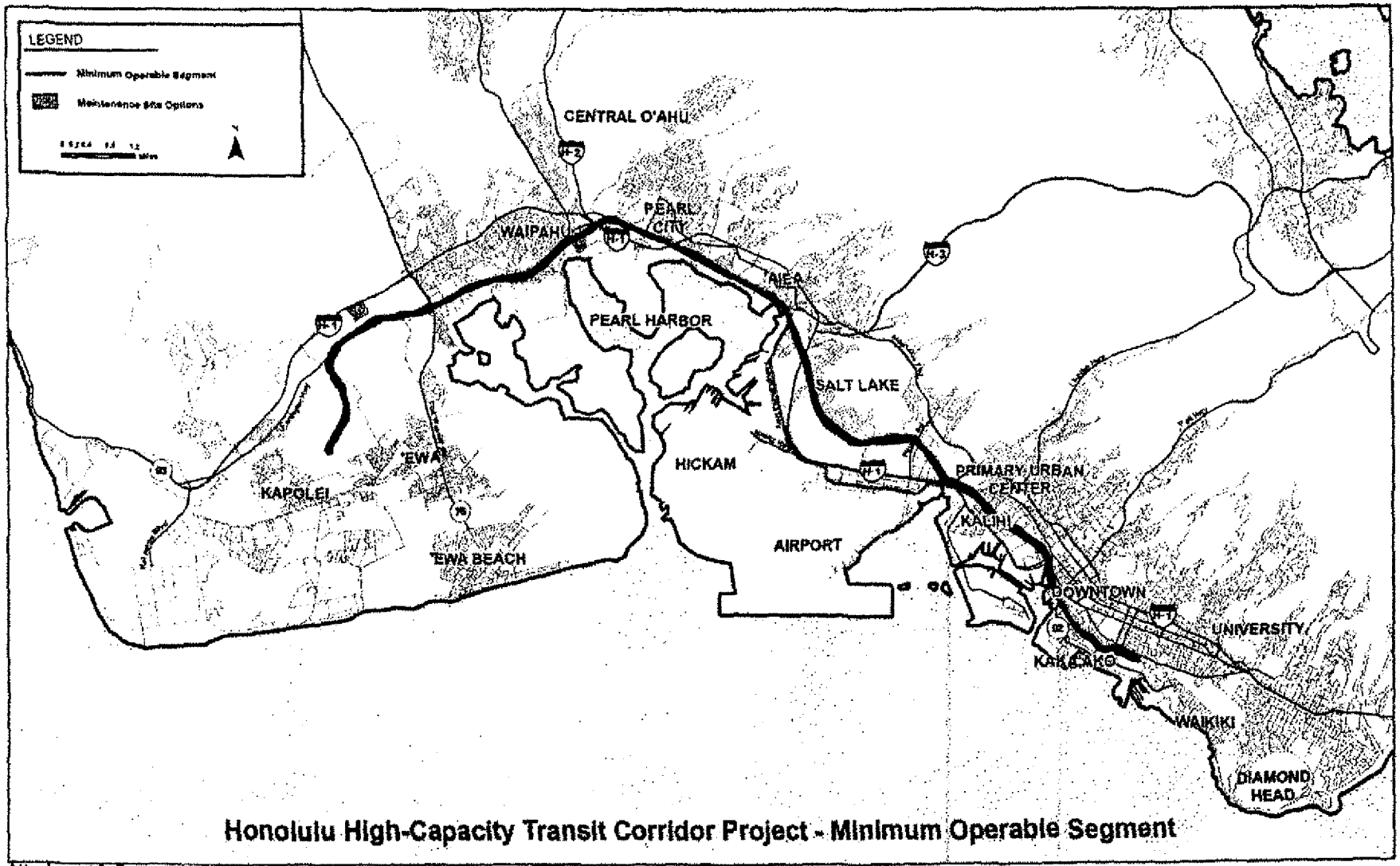
INTRODUCED BY:

Barbara Marshall (BR)

DATE OF INTRODUCTION:

January 30, 2007
Honolulu, Hawaii

Councilmembers




Attachment 3: Recommended MOS

*Minimum Operable Segment (MOS) Options*
*Honolulu High-Capacity Transit Corridor*

# Appendix B

*Maps*

Appendix B includes:

1. Locally Preferred Alternative Map
2. New Start Project Map

LEGEND

Locally Preferred Alternative

Maintenance Site Options

0 0.20.4 0.8 1.2 Miles

N

CENTRAL O'AHU

H-2

PEARL CITY

WAIPAHU

H-1

H-3

'AIEA

PEARL HARBOR

Moanalua Fwy

Kamehameha Hwy

SALT LAKE

Likelike Hwy

Pali Hwy

Nimitz Hwy

Puuloa Rd

Farrington Hwy

Fort Weaver Rd

'EWA

93

KAPOLEI

76

Kalaeloa Blvd

'EWA BEACH

HICKAM

AIRPORT

PRIMARY URBAN CENTER

KALIHI

DOWNTOWN

92

UNIVERSITY

KAKA'AKO

WAIKIKI

DIAMOND HEAD

AR00056769

LEGEND

First Project

Anticipated Future Extensions

Maintenance Site Options

0 0.2 0.4 0.8 1.2 Miles

N

CENTRAL O'AHU

WAIPAHU

PEARL CITY

'AIEA

PEARL HARBOR

SALT LAKE

HICKAM

AIRPORT

PRIMARY URBAN CENTER

KALIHI

DOWNTOWN

UNIVERSITY

KAKA'AKO

WAIKIKI

DIAMOND HEAD

KAPOLEI

'EWA

'EWA BEACH

H-1

H-2

H-3

93

76

92

Farrington Hwy

Fort Weaver Rd

Kalaeloa Blvd

Kamehameha Hwy

Nimitz Hwy

Puuloa Rd

Moanalua Fwy

Likelike Hwy

Pali Hwy

# Honolulu High-Capacity Transit Corridor Project - EIS Alternative
# (First Project and Anticipated Future Extensions)

# Appendix C

## *GET Legislation*

Appendix C includes:

1. State of Hawaii Bill Authorizing Counties to Establish Surcharge

2. Bill for an Ordinance by the City of Honolulu to establish the GET surcharge

**Report Title:**

Public Transit; County Surcharge on State Tax

**Description:**

Authorizes counties to levy a county surcharge on State tax to fund public transit in the counties.

HOUSE OF REPRESENTATIVES

TWENTY-THIRD LEGISLATURE, 2005

STATE OF HAWAII

# H.B. NO. 1309

# A BILL FOR AN ACT

relating to TAXATION.

**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:**

SECTION 1. Chapter 46, Hawaii Revised Statutes, is amended by adding a new section to be appropriately designated and to read as follows:

"§46- **County surcharge on state tax.** (a) Each county is authorized to establish a surcharge on state tax at the rates enumerated in sections 237- and 238- . A county electing to establish this surcharge shall do so by ordinance; provided that no ordinance shall be adopted until the county has conducted a public hearing on the proposed ordinance. Notice of the public hearing shall be published in a newspaper of general circulation within the county at least twice within a period of thirty days immediately preceding the date of the hearing.

(b) A county electing to exercise the authority granted under this section shall notify the director of taxation

within ten days after the county has adopted a surcharge on state tax ordinance, and the director of taxation shall levy, assess, collect, and otherwise administer the county surcharge on state tax for the taxable year beginning after the adoption of the ordinance.

(c) Each county with a population greater than five hundred thousand that adopts a county surcharge on state tax ordinance pursuant to subsection (a) shall use the surcharges received from the State for:

(1) Operating or capital costs of public transportation within each county for public transportation systems, including public buses, trains, ferries, pedestrian paths or sidewalks, or bicycle paths; and

(2) Expenses in complying with the Americans with Disabilities Act of 1990 with respect to the foregoing.

The county surcharge on state tax shall not be used to build or repair public roads or highways.

(d) Each county with a population equal to or less than five hundred thousand that adopts a county surcharge on state tax ordinance pursuant to subsection (a) shall use the surcharges received from the State for:

(1) Operating or capital costs of public transportation within each county for public transportation systems, including public roadways or highways, public buses, trains, ferries, pedestrian paths or sidewalks, or bicycle paths; and

(2) Expenses in complying with the Americans with Disabilities Act of 1990 with respect to the foregoing.

(e) As used in this section, "capital costs" means nonrecurring costs required to construct a transit facility or system, including debt service, costs of land acquisition and development, acquiring of rights-of-way,

planning, design, and construction, including equipping and furnishing the facility or system."

SECTION 2. Chapter 237, Hawaii Revised Statutes, is amended by adding a new section to be appropriately designated and to read as follows:

"**§237- County surcharge on state tax; administration.** (a) The county surcharge on state tax, upon the adoption of county ordinances under section 46- , shall be levied, assessed, and collected as provided in this section on all gross proceeds and gross income taxable under this chapter. No county shall set the surcharge on state tax at a rate greater than one per cent of all gross proceeds and gross income taxable under this chapter. All provisions of this chapter shall apply to the county surcharge on state tax; and with respect to the surcharge, the director shall have all the rights and powers provided under this chapter. In addition, the director of taxation shall have the exclusive rights and power to determine the county or counties in which a person is engaged in business and, in the case of a person engaged in business in more than one county, the director shall determine through apportionment or other means, that portion of the surcharge attributable to business conducted in each county.

(b) Each county surcharge on state tax that may be adopted pursuant to section 46- (a) shall be levied beginning in the taxable year after the adoption of the relevant county ordinance.

(c) The county surcharge on state tax, if adopted, shall be imposed on the gross proceeds or gross income of all written contracts that require the passing on of the taxes imposed under this chapter; provided that if the gross proceeds or gross income are received as payments beginning in the taxable year in which the taxes become effective, on contracts entered into before June 30 of the year prior to the taxable year in which the taxes become effective, and the written contracts do not provide for the passing on of increased rates of taxes, the county surcharge on state tax shall not be imposed on the gross proceeds or gross income covered under the written contracts. The county surcharge on state tax shall be imposed on the gross proceeds or gross income from all contracts entered into on or after June 30 of the year prior to the taxable year in which the

taxes become effective, regardless of whether the contract allows for the passing on of any tax or any tax increases.

(d) No county surcharge on state tax shall be established on any:

(1) Gross income or gross proceeds taxable under this chapter at the one-half per cent tax rate;

(2) Gross income or gross proceeds taxable under this chapter at the 0.15 per cent tax rate; or

(3) Transactions, amounts, persons, gross income, or gross proceeds exempt from tax under this chapter.

(e) The director of taxation shall revise the general excise and use tax forms to provide for the clear and separate designation of the imposition and payment of the county surcharge on state tax.

(f) The taxpayer shall designate the taxation district to which the county surcharge on state tax is assigned in accordance with rules adopted by the director of taxation under chapter 91. The taxpayer shall file a schedule with the taxpayer's periodic and annual general excise and use tax returns summarizing the amount of taxes assigned to each taxation district.

(g) The penalties provided by section 231-39 for failure to file a tax return shall be imposed on the amount of surcharge due on the return being filed for the failure to file the schedule required to accompany the return. In addition, there shall be added to the tax an amount equal to ten per cent of the amount of the surcharge and tax due on the return being filed for the failure to file the schedule or the failure to correctly report the assignment of the general excise tax by taxation district on the schedule required under this subsection.

(h) All taxpayers who file on a fiscal year basis whose fiscal year ends after December 31 of the year prior to the taxable year in which the taxes become effective, shall file a short period annual return for the period preceding January 1 of the taxable year in which the taxes become

effective. Each fiscal year taxpayer shall also file a short period annual return for the period starting on January 1 of the taxable year in which the taxes become effective, and ending before January 1 of the following year."

SECTION 3. Chapter 238, Hawaii Revised Statutes, is amended by adding a new section to be appropriately designated and to read as follows:

"**§238- County surcharge on state tax; administration.** (a) The county surcharge on state tax, upon the adoption of a county ordinance under section 46- , shall be levied, assessed, and collected as provided in this section on the value of property taxable under this chapter. No county shall set the surcharge on state tax at a rate greater than one per cent of all gross proceeds and gross income taxable under this chapter. All provisions of this chapter shall apply to the county surcharge on state tax. With respect to the surcharge, the director shall have all the rights and powers provided under this chapter. In addition, the director of taxation shall have the exclusive rights and power to determine the county or counties in which a person imports or purchases tangible personal property and, in the case of a person importing or purchasing tangible property in more than one county, the director shall determine, through apportionment or other means, that portion of the surcharge on state tax attributable to the importation or purchase in each county.

(b) Each county surcharge on state tax that may be adopted shall be levied beginning in the taxable year after the adoption of the relevant county ordinance.

(c) No county surcharge on state tax shall be established upon any use taxable under this chapter at the one-half per cent tax rate or upon any use that is not subject to taxation or that is exempt from taxation under this chapter.

(d) The director of taxation shall revise the general excise and use tax forms to provide for the clear and separate designation of the imposition and payment of the county surcharge on state tax.

(e) The taxpayer shall designate the taxation district to which the county surcharge on state tax is assigned in

accordance with rules adopted by the director of taxation under chapter 91. The taxpayer shall file a schedule with the taxpayer's periodic and annual general excise and use tax returns summarizing the amount of taxes assigned to each taxation district.

(f) The penalties provided by section 231-39 for failure to file a tax return shall be imposed on the amount of surcharge due on the return being filed for the failure to file the schedule required to accompany the return. In addition, there shall be added to the tax an amount equal to ten per cent of the amount of the surcharge and tax due on the return being filed for the failure to file the schedule or the failure to correctly report the assignment of the use tax by taxation district on the schedule required under this subsection.

(g) All taxpayers who file on a fiscal year basis whose fiscal year ends after December 31 of the year prior to the taxable year in which the taxes become effective, shall file a short period annual return for the period preceding January 1 of the taxable year in which the taxes become effective. Each fiscal year taxpayer shall also file a short period annual return for the period starting on January 1 of the taxable year in which the taxes become effective, and ending before January 1 of the following year."

SECTION 4. Chapter 248, Hawaii Revised Statutes, is amended by adding a new section to be appropriately designated and to read as follows:

"**§248- County surcharge on state tax; disposition of proceeds.** (a) If adopted by county ordinance, all county surcharges on state tax collected by the director of taxation shall be paid into the state treasury each month, within ten working days after collection, and shall be kept by the director of finance in special accounts. Out of the county surcharges on state tax paid into the state treasury special accounts, the director of finance shall retain, from time to time, sufficient amounts to reimburse the State for the costs of assessment, collection, and disposition of the county surcharge on state tax incurred by the State. Amounts retained shall be general fund realizations of the State.

(b) The costs of assessment, collection, and disposition of county surcharges on state tax shall be withheld from payment to the several counties by the State out of the county surcharges on state tax collected for the current calendar year.

(c) The costs of assessment, collection, and disposition of the county surcharges on state tax shall be borne by each of the several counties in an amount proportional to the total amount of surcharges allocated to that county divided by the total amount of surcharges collected for the entire State for the preceding calendar year.

(d) For the purpose of this section, the costs of assessment, collection, and disposition of the county surcharges on state tax shall include any and all costs, direct or indirect, that are deemed necessary and proper to effectively administer this section and sections 237- and 238- . Costs include refunds or reductions of income taxes under section 235-110.7 attributable to the county surcharge on state tax.

(e) After the deduction of the costs under subsection (b), the director of finance shall pay the remaining balance on a monthly or quarterly basis to the director of finance for each county that has adopted a county surcharge on state tax under section 46- . The payments shall be made as soon as possible after the county surcharges on state tax have been paid into the state treasury special accounts or after the disposition of any tax appeal, as the case may be. All county surcharges on state tax collected shall be distributed by the director of finance to the county in which the county surcharge on state tax is generated and shall be a general fund realization of the county, to be used for the purposes specified in section 46- by each of the several counties."

SECTION 5. Chapter 51D, Hawaii Revised Statutes, is repealed.

SECTION 6. New statutory material is underscored.

SECTION 7. This Act shall take effect on July 1, 2005.

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

ORDINANCE 05-027

BILL 40 (2005), FD1, CD2

# A BILL FOR AN ORDINANCE

ESTABLISHING A GENERAL EXCISE AND USE TAX SURCHARGE FOR THE CITY AND COUNTY OF HONOLULU.

BE IT ORDAINED by the People of the City and County of Honolulu:

SECTION 1. Purpose and Findings. Currently, traffic congestion on Oahu is a major drain on the quality of life for all island residents. Past efforts to implement more comprehensive mass transit solutions have not come to fruition. Future plans to implement transit solutions that might mitigate congestion are tentative at best. There is not yet a consensus on what transportation and transportation system management modes, methods, or combinations thereof, would best serve the island. However, one thing is incontrovertible: any successful transportation solution or system of solutions to Oahu's traffic problems will be expensive, and will require a reliable and significant commitment of local resources to create.

The council finds that the most effective way to proceed to address Oahu's traffic problems is to begin with a firm financial commitment. To this end, the Hawaii State legislature has authorized the counties to enact a surcharge of up to one-half percent on the general excise taxes currently imposed by the state. The council finds that it is vital to the future of Oahu's residents and visitors that it enact the authorized surcharge. Therefore, the purpose of this ordinance is to establish a general excise and use tax surcharge and provide for receipt and expenditure of these monies.

SECTION 2. Chapter 6, Revised Ordinances of Honolulu 1990, is amended by adding a new article to be appropriately designated by the revisor of ordinances and to read as follows:

**"Article __. Transportation Surcharge—Use of Funds**

**Sec. 6-__.1 Establishment of surcharge—Conditions.**

Pursuant to Section 2 of Act 247, Session Laws of Hawaii, Regular Session of 2005, codified as Section 46-__ of the Hawaii Revised Statutes, there is hereby established a one-half percent general excise and use tax surcharge to be used for purposes of funding the operating and capital costs of public transportation within the City and County of Honolulu as specified herein. The excise and use tax surcharge shall be levied beginning January 1, 2007. Prior to the tax surcharge monies being expended as the local match for federal funds, the following shall occur:

(1) The council has approved by resolution a locally preferred alternative following an Alternatives Analysis and Draft EIS; and

(2) The council has received from the director of transportation services an operational, financial, development and route plan for the locally preferred alternative; and

(3) There is a commitment of federal funds, whether for planning, land acquisition or construction, to further the locally preferred alternative.

**Sec. 6-__.2 Use of funds.**

(a) All moneys received from the state derived from the imposition of the surcharge established under this article shall be deposited into the general fund and expended for the following purposes authorized by state law:

(1) Operating or capital costs of a locally preferred alternative for a mass transit project; and

(2) Expenses in complying with the Americans with Disabilities Act of 1990 with respect to paragraph (1).

(b) No moneys received from the surcharge shall be used to build or repair public roads or highways or bicycle paths, or to support public transportation systems already in existence prior to the effective date of Act 247, Session Laws of Hawaii, Regular Session of 2005.

**Sec. 6-__.3 Repeal of surcharge.**

Pursuant to Section 9 of Act 247, Session Laws of Hawaii, Regular Session of 2005, Section 6-__.1 shall be repealed on December 31, 2022."

# A BILL FOR AN ORDINANCE

SECTION 3. This ordinance shall take effect upon its approval. The clerk shall transmit a copy of this ordinance to the state director of taxation within ten days of its approval.

INTRODUCED BY:

Nestor Garcia

Romy M. Cachola

Ann Kobayashi

Gary Okino

Donovan Dela Cruz

Rod Tam

Todd Apo

DATE OF INTRODUCTION:

May 4, 2005
Honolulu, Hawaii

Councilmembers

APPROVED AS TO FORM AND LEGALITY:

Deputy Corporation Counsel

APPROVED this 23rd day of August, 2005.

MUFI HANNEMANN, Mayor
City and County of Honolulu

(OCS/080205/ct)

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII
CERTIFICATE

ORDINANCE **05 - 027**

BILL **40 (2005)**

Introduced: 5/4/05 By: NESTOR GARCIA

Committee: BUDGET/TRANSP. (JOINT REFERRAL)

Title: A BILL FOR AN ORDINANCE ESTABLISHING A GENERAL EXCISE AND USE TAX SURCHARGE FOR THE CITY AND COUNTY OF HONOLULU.

Links: Bill 40 (2005)
Bill 40 (2005), CD1
Bill 40 (2005), CD1, FD1
Bill 40 (2005), FD1, CD2
CR-236

| | | |
|---|---|---|
| Council | 5/11/05 | Bill passed first reading and referred to Committee on Budget.<br>Apo Y Cachola Y Dela Cruz Y Djou N Garcia Y<br>Kobayashi Y Marshall N Okino Y Tam Y |
| | | Bill re-referred to Budget/Planning and Transportation Committee as a joint committee referral (previously Budget Committee). (CC-81) |
| Joint Budget/PT | 5/17/05 | CR-236 – Bill reported out of committee for passage on second reading and scheduling of a public hearing as amended in CD1 form. |
| Publish | 5/27/05 and 6/1/05 | Public hearing notices published in the Honolulu Star-Bulletin on 5/27/05 and 6/1/05. |
| Council/ Public Hearing | 6/6/05 | Public hearing closed. Action deferred until the July 6, 2005 Council meeting on Bill 40; Bill 40, proposed CD1; Bill 40, proposed CD1, FD1; and CR-236. |
| Council | 7/6/05 | CR-236 adopted. Bill 40, CD1, further amended to CD1, FD1, and subsequently passed second reading, as amended (Bill 40, CD1, FD1).<br>Apo Y Cachola Y Dela Cruz Y Djou N Garcia Y<br>Kobayashi Y Marshall N Okino Y Tam Y |
| Publish | 7/15/05 | Second reading notice published in the Honolulu Star-Bulletin. |
| | | Re-referred to Budget/Transportation Committee as a joint referral pursuant to CC-123. (Previously Budget/Planning and Transportation Committee). |
| Joint Budget/Transp. | 8/2/05 | CR-374 – Bill reported out of committee for passage on third reading, as amended in FD1, CD2 form. |
| Council | 8/10/05 | Bill passed third reading, as amended (FD1, CD2), and CR-374 adopted. (Bill 40, FD1, CD2)<br>Apo Y Cachola Y Dela Cruz Y Djou N Garcia Y<br>Kobayashi Y Marshall N Okino Y Tam Y |

I hereby certify that the above is a true record of action by the Council of the City and County of Honolulu on this Bill

Denise C. De Costa
DENISE C. DE COSTA, CITY CLERK

DONOVAN M. DELA CRUZ, CHAIR AND PRESIDING OFFICER

05 - 027

# Appendix D

## *Farebox Recovery Ratio Resolution*

Appendix D includes:

1. City Bus System Operating Cost Policy

ESTABLISHING A POLICY ON FUNDING THE OPERATING COST OF THE CITY BUS SYSTEM.

WHEREAS, the public transit system of the City and County of Honolulu is comprised of the bus system which provides regularly scheduled, fixed route service and the special transit service which provides paratransit services for persons with disabilities; and

WHEREAS, the City bus system benefits the general welfare by increasing public mobility, lessening traffic congestion by diverting people from cars, reducing emissions and pollutants associated with vehicular travel, and decreasing the demand for limited on- and off-street parking; and

WHEREAS, as an essential municipal service, the City bus system is heavily patronized as evidenced by the following statistics reported by the Department of Transportation Services: actual ridership of 73.1 million in fiscal year 1997-98 and 69.7 million in fiscal year 1998-99 and projected ridership of 70 million in fiscal year 1999-2000; and

WHEREAS, notwithstanding the heavy public use and benefits derived from the City bus system, a large portion of the operating cost of the City bus system is subsidized by nonusers via the City's general and highway funds; and

WHEREAS, a smaller portion is funded by the farebox revenues which have ranged from 20 to 30 percent of the operating cost of the City bus system in recent years; and

WHEREAS, recognizing the monetary demands of the operating cost of the bus system on the City budget, the Council's 1995 Budget Summit recommended that the City Administration and the Council find a means of limiting the subsidy for the bus operations to 70%, or a similar amount, so that the subsidy does not grow unreasonably high; and

WHEREAS, to date, no policy exists on the desired farebox recovery ratio, which is the ratio of bus fare revenues to operating cost, and the desired subsidy levels for the City bus system; and

WHEREAS, the Council finds that such a policy is necessary to guide the City administration and the Council in the proper planning and budgeting for the City bus system which includes:

(1) Establishing a ridership goal for each fiscal year which must be achieved in order to generate the necessary fare revenues for that year;

(2) Encouraging an evaluation of the impact of ridership forecasts and fare revenue projections when considering budgetary decisions affecting service levels; and

(3) Setting a percentage limit on the subsidy for the City bus system;

now, therefore,

BE IT RESOLVED by the Council of the City and County of Honolulu that the funding of the annual operating cost of the City bus system, excluding special transit service and debt service, be governed by the following policy:

(1) Bus fares shall be adjusted as provided under this policy so that the farebox recovery ratio does not fall below 27 percent nor exceed 33 percent; and

(2) The portion of operating cost remaining after application of paragraph (1) and intergovernmental grants shall be funded with the City's highway funds and general funds;

and

BE IT FURTHER RESOLVED that at the same time that the Mayor submits the annual executive operating and capital budgets to the Council for its consideration, the Mayor submit a report to the Council on: 1) the actual farebox recovery ratio for the previous fiscal year; 2) the estimated ratio for the current fiscal year, and 3) the projected ratio for the budgeted fiscal year; and

BE IT FURTHER RESOLVED that upon the adoption of this Resolution, all subsequent annual executive operating budgets submitted by the Mayor to the Council shall comply with this policy; and

BE IT FINALLY RESOLVED that the Clerk is directed to transmit a copy of this Resolution to the Mayor, the Director of Budget and Fiscal Services, the Director of Transportation Services and the Transportation Commission.

INTRODUCED BY:

Duke Bainum

Councilmembers

DATE OF INTRODUCTION:

February 15, 2000

Honolulu, Hawaii



00-29